



Alabama Port Authority
Specification Booklet

Project Name **McDuffie 43E, 23kV to 480V Transformer**

Location Mobile, AL

Project # 11847 **TASK#** 3

September 2026

SPECIFICATIONS AND CONTRACT DOCUMENTS



**ALABAMA
PORT AUTHORITY**

Doug Otto, Director & CEO

Kay Ivey, Governor of Alabama

ISSUED BY

Engineering Services Department



Alabama Port Authority
Specification Booklet

Project Name **McDuffie 43E, 23kV to 480V Transformer**

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BID

DOCUMENTS

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INVITATION TO BID

Sealed bid proposals will be received via courier to the Alabama Port Authority, 1400 Alabama State Docks Blvd., Room 216, Administration Building, Mobile, AL 36602 no later than **1:30 P.M., on Thursday, October 15, 2026**. Sealed bid proposals can also be hand delivered from **1:45 P.M. to 2:00 P.M., on Thursday, October 15, 2026** to the Alabama Port Authority International Trade Center Lobby, 250 North Water Street, Mobile, AL. Faxed or electronic submitted bids will not be accepted.

McDuffie 43E, 23kV to 480V Transformer
Mobile, Alabama

This Requisition solicits proposals to furnish one 23 kV to 480 V transformer for building 43 East at McDuffie Coal Terminal in Mobile, Alabama for the Alabama Port Authority (APA) as shown in the attached 23 kV/480 V Transformer Specification. Work will be in accordance with the requirements stated herein, all referenced documents, and applicable State of Alabama Laws. The Contractor will be required to supply a delivery schedule with their bid and associated liquidated damages will be applied based on the provided schedule. ASPA reserves the right to choose the best value based on a combination of price and schedule. Proposals shall be valid for 90 calendar days.

Specifications, proposal forms, bid bond forms, and plans are available on the Alabama Port Authority website at www.alports.com. For additional project and contractual information, please contact the APA Project Manager, Pete Olivero at (251) 622-2688 (email to pete.olivero@alports.com). For technical information, please contact Taylor Williams at Taylor.Williams@AllianceEngr.com c.c. pete.olivero@alports.com

Each Bidder shall satisfy oneself as to the character, quality, and quantities of work to be performed, and as to the requirements of the proposed contract. The submission of a proposal shall be proof that the bidding Contractor has made such examination and is satisfied as to the conditions to be encountered in performing the work and as to the requirements of the proposed Contract.

APA will utilize its sales tax exemption status on this project. The Contractor will be responsible for the purchase of all materials and will be required to apply for sales and use tax certificate of exemption upon contract award.

Due to the time needed to determine the best value based on price and schedule, bids will **NOT** be publicly opened. We intend to let the selected bidder know that we intend on proceeding with award within 10 days of receipt of the bids. The right is reserved, as the interest of the Alabama Port Authority may require, to reject any and all bids and to waive informalities in bids received. In the event no bid represents a viable combination of price and schedule, the Alabama Port Authority reserves the right to solicit submission of a best and final offer from the pool of existing bidders.



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IMPORTANT NOTICE TO CONTRACTORS REGARDING EMPLOYMENT PRACTICES: Effective October 1, 2011, the Beason-Hammon Alabama Taxpayer and Citizen Protection Act ("the Act") requires that any business entity contracting with or providing any grant or incentives to the state, including the Alabama Port Authority, certify compliance with the Act. All Contractors must certify such compliance by executing the enclosed "Certificate of Compliance" and returning it to the Alabama Port Authority with your proposal. In addition, the company shall submit with their proposal evidence that the company is enrolled in the E-Verify system. The following E-Verify website link is provided for convenience: http://www.dhs.gov/files/programs/gc_1185221678150.shtm.

IMPORTANT NOTICE TO CONTRACTORS REGARDING ACCESS TO ASPA RESTRICTED FACILITIES:

All individuals performing any work in McDuffie Terminal must have a valid Transportation Worker Identification Credential (TWIC) card, ASPA badge and an ASPA vehicle decal with no exceptions. Information regarding ASPA's access policy is provided on the ASPA website at the link below.

<https://www.alports.com/port-access>

Time is an essential element in the Contract. Therefore, for each day the equipment delivery is delayed beyond the delivery date specified in the schedule provided by the bidder with their bid, \$250.00 shall be paid by the Contractor to ASPA as liquidated damages for the loss sustained by the State because of failure of the Contractor to complete the work within the specified time.

Subsequent to the final acceptance of this project by the APA project manager, the following requirements must be satisfied by the Contractor before final payment can be made.

The Contractor must execute copies of CONTRACTOR'S AFFIDAVIT OF PAYMENT OF CLAIMS AND DEBTS on the form furnished by the Engineer.

- a) The Contractor must furnish a letter on his letterhead acknowledging that acceptance of final payment by the Contractor constitutes a waiver of all claims, present or future, in connection with this project.
- b) The Contractor must furnish a written guarantee on his letterhead covering all defects in material and workmanship for a period of not less than two (2) years commencing on the date of final acceptance.
- c) If any purchased items have been incorporated in the work, the Contractor must furnish a letter on his letterhead assigning those warranties to the OWNER. Copies of said warranties shall be bound in one binder and submitted along with the letter assignment.



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INSTRUCTIONS TO BIDDERS

1.0 ADDENDA AND INTERPRETATIONS

All questions about the meaning or intent of the Contract Documents shall be submitted to the Engineer in writing. Replies will be issued by Addenda emailed to all parties recorded as having received the bidding documents. All addenda so issued shall become part of the Contract Documents. Only questions answered by formal written Addenda will be binding. Oral and other interpretations or clarifications will be without legal effect. Deadline for submitting questions is Thursday, October 8, 2026 at 4pm CST.

2.0 SUBMISSION OF PROPOSALS

Before submitting their proposal, the Contractor shall comply with the following:

- (a) The Proposals, including the acknowledgement of addenda, shall be filled in ink on the form provided herein and all blank spaces in the form shall be fully filled. The signature shall be in long hand and the complete form shall be without interlineations, alteration or erasure.
- (b) Attach a certified check or Bid Bond in the amount of 5% of the Proposal, but not more than \$10,000 made payable to the Alabama Port Authority.
- (c) Certificate of Compliance with the Beason-Hammon Alabama Taxpayer and Citizen Protection Act (see page I-9)
- (d) Delivery schedule

One copy of Item (a) through (d) should be placed in a sealed envelope with the bidder's name, the project name and number, and the time and date of bid opening shown on the outside.

All submissions, including hand-delivered packages, US Postal Service express mail, or private delivery service must be delivered to the following individual at the following address in accordance with the Invitation to Bid. Bids will not be publicly opened.

Alabama Port Authority
Pete Olivero, P.E., Sr. Facilities Engineer
1400 Alabama State Docks Boulevard,
Administration Building, Suite 216
Mobile, AL 36602
(251) 622-2688

Neither fax nor email submissions will be accepted. Respondents are responsible for effective delivery by the above deadline, and late submissions will be rejected without opening and returned to the sender. APA accepts no responsibility for misdirected or lost proposals.



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Proposal of:

Address:

Date:

To: STATE OF ALABAMA, Alabama Port Authority, Mobile, Alabama

Gentlemen:

The undersigned, as Bidder, hereby declares that he has examined the plans and specifications for the work and contractual documents relative thereto, and has read all Specifications furnished; and that he has satisfied himself relative to all aspects of the work to be performed and especially to those factors affecting cost, progress, or performance.

The Bidder proposes and agrees, if this bid is accepted, to contract with the Owner in the form of contract specified, to furnish all necessary materials, equipment, tools, apparatus, means of transportation, labor and incidentals to perform in a satisfactory manner, the work described in the Contract Specifications and Drawings for the Alabama Port Authority, for the prices listed below to complete:

McDuffie 43E, 23kV to 480V Transformer
Mobile, Alabama

In full and complete accordance with the shown, noted, described and reasonable intended requirements of the plans, specifications and contract documents to the full and entire satisfaction of the Owner with a definite understanding that no money will be allowed for extra work except as set forth in the attached contract documents.

It is agreed that the description under each item, being briefly stated, implies, although it does not mention, all incidentals and that the prices stated are intended to cover all such work materials and incidentals as constitute Bidder's obligation as described in the specifications and any details not specifically mentioned, but evidently included in the contract shall be compensated for the item which most logically includes it.

Bidder agrees that he will commence the work within the time allotted by the Contract Documents with adequate force, plant, and equipment and that the work will be completed within the time schedule which the Bidder provides. Bidder accepts the provisions of the Contract Documents as to liquidated damages in the event of failure to complete the work on time.

The Bidder further agrees that, in case of failure on his part to execute the Contract and required bonds within ten (10) calendar days from the date written notice of intent to award if mailed or otherwise delivered to the Bidder, the certified check or bid bond accompanying this bid and the monies payable thereon shall be paid into the funds of the Owner not as penalty, but as a liquidation of a reasonable portion of the damages incurred by the Owner due to the Bidder's failure to execute the Contract.



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Each of the following items within the Schedule of Prices shall be completed in accordance with this Specification Booklet. **Items not specifically noted in the schedule of prices shall be considered ancillary to the project and be absorbed in the bid items.**

SCHEDULE OF PRICES

ITEM	DESCRIPTION	QTY	UNIT PRICE	LEAD TIME (weeks)	VALUE
1	Bonds and Insurance	L.S.	Lump Sum	n/a	\$
2	23kV to 480V Transformer	L.S.	Lump Sum		\$
3	Factory Testing and Delivery	L.S.	Lump Sum	n/a	\$
				TOTAL	\$



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I, the undersigned bidder, hereby acknowledge receipt of the following addenda:

ADDENDUM NO. _____

ADDENDUM NO. _____

ADDENDUM NO. _____

ADDENDUM NO. _____

Contractor's Signature: _____

Company _____

Name (print)

Title

Date



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BID BOND

KNOW ALL MEN BY THESE PRESENTS, that we, undersigned, _____
_____ as Principal, and _____

as Surety, are hereby held and bound unto The Alabama Port Authority as **OWNER** in the Penal sum of _____ for the payment of which will and truly be made, we hereby jointly and severally bind ourselves, successors and assigns. Signed, the _____ day of _____, 2026.

The Condition of the above obligation is such that whereas the Principal has submitted to the Alabama Port Authority a certain BID, attached hereto and hereby made a part hereof to enter into a contract in writing, for the

McDuffie 43E, 23kV to 480V Transformer, Project 11847, Task # 3.

NOW, THEREFORE,

(a) If said BID shall be rejected, or

(b) If said BID shall be accepted and the Principal shall execute and deliver a contract in the form of Contract attached hereto (Properly completed in accordance with said BID) and shall furnish a BOND for his faithful performance of said contract, and for the payment of all persons performing labor or furnishing materials in connection therewith, and shall in all other respects perform the agreement created by the acceptance of said BID, then this obligation shall be void, otherwise the same shall remain in force and effect; it being expressly understood and agreed that the liability of the Surety for any and all claims hereunder shall, in no event, exceed the penal amount of this obligation as herein stated.

The Surety, for value received, hereby stipulates and agrees that the obligations of said Surety and its **BOND** shall in no way be impaired or affected by any extension of time within which the **OWNER** may accept such BID; and said Surety does hereby waive notice of any such extension.

IN WITNESS WHEREOF, the Principal and the Surety have hereunto set their hands and seals, and such of them as are corporations have caused their corporate seals to be hereto affixed and these presents to be signed by their proper officers, the day and year first set forth above.

Principal	
By	
Surety	
By	



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State of _____

County of _____

CERTIFICATE OF COMPLIANCE WITH THE BEASON-HAMMON ALABAMA TAXPAYER AND CITIZEN PROTECTION ACT (ACT 2011-535, as amended by Act 2012-491)

DATE: _____

RE Contract/Grant/Incentive (describe by number or subject):

_____ by and between
_____ (Contractor/Grantee) and
_____ (State Agency, Department or Public

Entity) The undersigned hereby certifies to the State of Alabama as follows:

1. The undersigned holds the position of _____ with the Contractor/Grantee named above, and is authorized to provide representations set out in this Certificate as the official and binding act of that entity, and has knowledge of the provisions of THE BEASON-HAMMON ALABAMA TAXPAYER AND CITIZEN PROTECTION ACT (ACT 2011-535 of the Alabama Legislature, as amended by Act 2012-491) which is described herein as "the Act".
2. Using the following definitions from Section 3 of the Act, select and initial either (a) or (b), below, to describe the Contractor/Grantee's business structure.

BUSINESS ENTITY. Any person or group of persons employing one or more persons performing or engaging in any activity, enterprise, profession, or occupation for gain, benefit, advantage, or livelihood, whether for profit or not for profit. "Business entity" shall include, but not be limited to the following:

- a. Self-employed individuals, business entities filing articles of incorporation, partnerships, limited partnerships, limited liability companies, foreign corporations, foreign limited partnerships, foreign limited liability companies authorized to transact business in this state, business trusts, and any business entity that registers with the Secretary of State.
- b. Any business entity that possesses a business license, permit, certificate, approval, registration, charter, or similar form of authorization issued by the state, any business entity that is exempt by law from obtaining such a business license and any business entity that is operating unlawfully without a business license.

EMPLOYER. Any person, firm, corporation, partnership, joint stock association, agent, manager, representative, foreman, or other person having control or custody of any employment, place of employment, or of any employee, including any person or entity employing any person for hire within the State of Alabama, including a public employer. This term shall not include the occupant of a household contracting with another person to perform casual domestic labor within the household.

____ (a) The Contractor/Grantee is a business entity or employer as those terms are defined in Section 3 of the Act.

____ (b) The Contractor/Grantee is not a business entity or employer as those terms are defined in Section 3 of the Act.

3. As of the date of this Certificate, Contractor/Grantee does not knowingly employ an unauthorized alien within the State of Alabama and hereafter it will not knowingly employ, hire for employment, or continue to employ an unauthorized alien within the State of Alabama;



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4. Contractor/Grantee is enrolled in E-Verify unless it is not eligible to enroll because of the rules of that program or other factors beyond its control.

Certified this _____ day of _____ 20 _____

Name of Contractor/Grantee/Recipient

By: _____

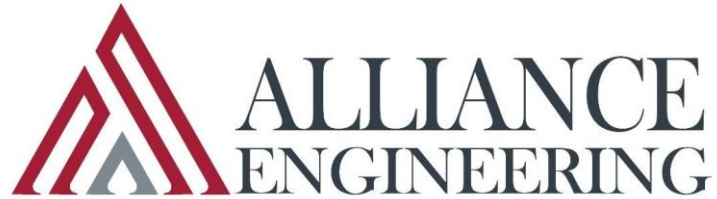
Its _____

The above Certification was signed in my presence by the person whose name appears above,

on this _____ day of _____ 20 _____.

WITNESS:

Printed Name of Witness



250525-EL-SPEC-004

Prepared For: Chris Phillips

Revision: B

Date: 08/27/2026

McDuffie Coal Terminal

1901 Ezra Trice Blvd

Mobile, AL 36603

Project: 43 East Expansion

23 kV/480 V Transformer Specification

Rev	Reason	Date	By	Chk'd	App'd
A	Issued for Bid	8/24/2026	AND	TW	
B	Updated kVA Allowance	9/24/26	AND	TW	

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1. General

Alliance Engineering has prepared this pad-mounted transformer specification package on behalf of McDuffie for the purpose of soliciting competitive quotations from qualified transformer manufacturers and vendors. This document defines the minimum technical, performance, and construction requirements for a 3-phase pad-mounted transformer to be furnished for the McDuffie facility located in Mobile, Alabama.

This specification has been developed by Alliance Engineering based on project-specific requirements, applicable codes and standards, and accepted industry practices for industrial power distribution systems. The design intent, system configuration, and equipment requirements are fully defined within this package and shall be used by vendors as the sole basis for equipment selection, configuration, and pricing.

The specification package includes, but is not limited to, the following Alliance Engineering–developed reference documents:

- Single-line diagram(s)
- Low-voltage switchboard equipment specification sheet(s)
- Equipment ratings, protective device requirements, and functional descriptions
- Grounding and bonding requirements
- Applicable testing, documentation, and submittal requirements

All equipment furnished under this specification shall be fully compliant with the requirements contained herein and shall be complete in all respects for proper installation, operation, and long-term service.

2. Scope of Supply

The pad-mounted transformer supplied by the vendor shall include all equipment, components, accessories, and services required to provide a complete, fully functional unit as specified. This includes, but is not limited to, the transformer core and coil assembly, insulating fluid, high-voltage and low-voltage compartments, bushings and terminations, loadbreak switches, overcurrent protection devices, gauges, fittings, grounding provisions, and cabinet hardware.

Vendor proposals shall include all items necessary to meet the performance and functional requirements shown on the single-line diagram(s) and described in the equipment specification sheets, whether each individual item is explicitly listed.

3. Applicable Codes and Standards

The pad-mounted transformer and associated equipment shall be designed, manufactured, tested, and labeled in accordance with the latest adopted editions of the following codes and standards:

- IEEE – Institute of Electrical and Electronics Engineers

- NFPA 70 – National Electrical Code (NEC)
- NEMA – National Electrical Manufacturers Association
- OSHA – Occupational Safety and Health Administration
- UL – Underwriters Laboratories
- FM – Factory Mutual
- ANSI – American National Standards Institute

Where conflicts exist between referenced standards, drawings, and this specification, the more stringent requirement shall apply. Requests for clarification shall be submitted prior to quotation.

4. Basis of Design and Intent

This specification is intended to define all technical requirements necessary to correctly specify a three-phase, pad-mounted distribution transformer suitable for outdoor industrial service at the McDuffie facility. Equipment shall be rated for the electrical system characteristics indicated on the single-line diagram(s) and shall be suitable for continuous operation in an industrial environment. The transformer shall be designed to provide:

- Safe and reliable operation
- Maintainability and accessibility for testing and servicing
- Compatibility with existing and future electrical systems
- Compliance with grounding, bonding, and safety requirements
- Complete coordination with protective devices as specified

Vendors shall not deviate from the requirements of this specification without written approval from Alliance Engineering.

5. Equipment Features

The pad-mounted transformer shall be furnished as a complete assembly and shall include, at a minimum, the following materials, components, and features. All items listed herein shall be included in the vendor's base quotation.

This transformer supplies power to a 480 V switchgear with eight (8) variable frequency drives.

5.1 Ratings

- Number of phases: 3
- Coolant: Mineral Oil
- Frequency: 60 Hz
- kVA Rating: 3500 kVA (A larger kVA rating, such as 4 MVA or 5 MVA, may be offered as an alternate if it provides a reduced leadtime.)
- Impedance: 5.80%
- Temperature Rise: 55/65 °C
- High Voltage: 23 kV Delta, BIL 150 kV, 25 kV Class

- High-Voltage Bushings Rating: 25 kV, 250A
- High-Voltage Arresters: 25 kV class, distribution class 18 kV
- Low Voltage: 480 V Wye, BIL 45 kV, 600 V Class
- Low-Voltage Bushing Rating: 600 V, 4000A

5.2 Cooling

- The transformer shall be designed for continuous self-cooled operation. Winding temperature rise by resistance will not exceed 55°C; the hottest spot winding temperature will not exceed 65°C.
- The transformer shall be provided with single-phase 120V fans. All wiring for fans shall be terminated on terminal strips located in weatherproof termination box.
- Fans shall be powered by an external circuit.
- Fan control with relays and alarm contacts shall be provided for fan operation.

5.3 Neutral Bushing

The secondary winding neutral bushing shall be located on the side of the tank, adjacent to the low voltage phase bushings.

5.4 Liquid Preservation

The transformer shall have a sealed tank with welded-on cover for preservation of the transformer liquid. The main transformer tank and attached components shall be designed to withstand 15 psi without permanent deformation. Construction shall be from carbon steel plate reinforced with external sidewall braces. All seams and joints shall be continuously welded.

5.5 Accessories

The following accessories shall be provided as part of the transformer unit:

- Drain and sampling valves
- Filter press connections (top and bottom)
- Liquid level gauge and alarm contacts
- Pressure relief device with indicator
- Pressure vacuum gauge and bleed
- Top liquid dial-type thermometer with alarm contacts
- Tank ground pad
- Three (3) – 18 kV station class metal-oxide surge arrestors located inside the primary termination cabinet
- 316 stainless steel nameplate shall be stamped with information. Nameplate shall be fastened with stainless steel screws.
- Provisions for lifting and jacking
- Bolted manhole cover
- Pressure test connection
- Filling plug

- NEMA 4X weatherproof termination box for common termination point of all protection devices, alarms, fans, heaters, and remote indicators. All external conduit connections to the termination box shall be from the bottom. All conduit entrances shall be sealed to maintain the NEMA 4X rating. Rivets that penetrate the box are not allowed.

5.6 External Connections

- Primary Side (High Voltage)
 - Bushing terminal connectors shall be furnished by the transformer manufacturer. These connectors shall be compression type, suitable for terminating one #1/0 25 kV copper cable per phase, entering through the top of the compartment.
 - The compartment shall have a Unistrut bracket located 30" below the bushings, suitable for supporting the weight of the cables
 - The minimum spacing between the top of the compartment and the bushings shall be 24 inches.
- Secondary Side (Low Voltage)
 - Bushing terminal connectors shall be furnished by the transformer manufacturer. These connectors shall be compression type, suitable for terminating 757 MCM 600 V class cables, entering through the top of the compartment. These connectors shall be suitable for terminating nine (9) 757 MCM cables per phase.
 - The compartment shall have Unistrut bracket located 30" below the bushings, suitable for supporting the weight of the cables.
 - The minimum spacing between the top of the compartment and the bushings shall be 24 inches.
- All bushings shall be electro-tin-plated copper.

5.7 Tap Changer

The transformer shall be supplied with standard taps with 2.5% above and 2.5% below rated voltage. These taps are to be manually operated from outside the tank only when transformer is de-energized.

5.8 Finish and Corrosion Protection

- All enclosures shall be outdoor NEMA 4X rated, corrosion-resistant construction
- All current-carrying connections above the liquid coolant and all external transformer connections shall be copper.
- Nuts and bolts for the cable lug connections shall be anti-corrosive steel. Stainless steel is not allowed for this application.
- All other nuts, bolts, and miscellaneous hardware shall be stainless steel.
- Transformer shall be shipped with a nitrogen blanket.

5.9 Grounding

- All enclosures shall be outdoor NEMA 4X rated, corrosion-resistant construction

6. Testing

The manufacturer must provide certified test reports for the transformer being supplied. Actual test data sheets must be submitted.

- Turns Ratio Test (TTR)
- Winding Resistance Test
- Impedance Voltage & Load Loss Test
- No Load Loss & Exciting Current Test
- Polarity / Phase Relation Test
- Insulation Resistance (Megger) Test
- Power Factor Test
- Dielectric Withstand (Hipot) Test
- Temperature Rise Test
- Partial Discharge Test
- Audible Sound Level Test
- Short-Circuit Capability Test
- Leakage Test
- Pressure Test
- Dissolved Gas in Oil Analysis
- Operation Test of All Devices
- Low Frequency Test

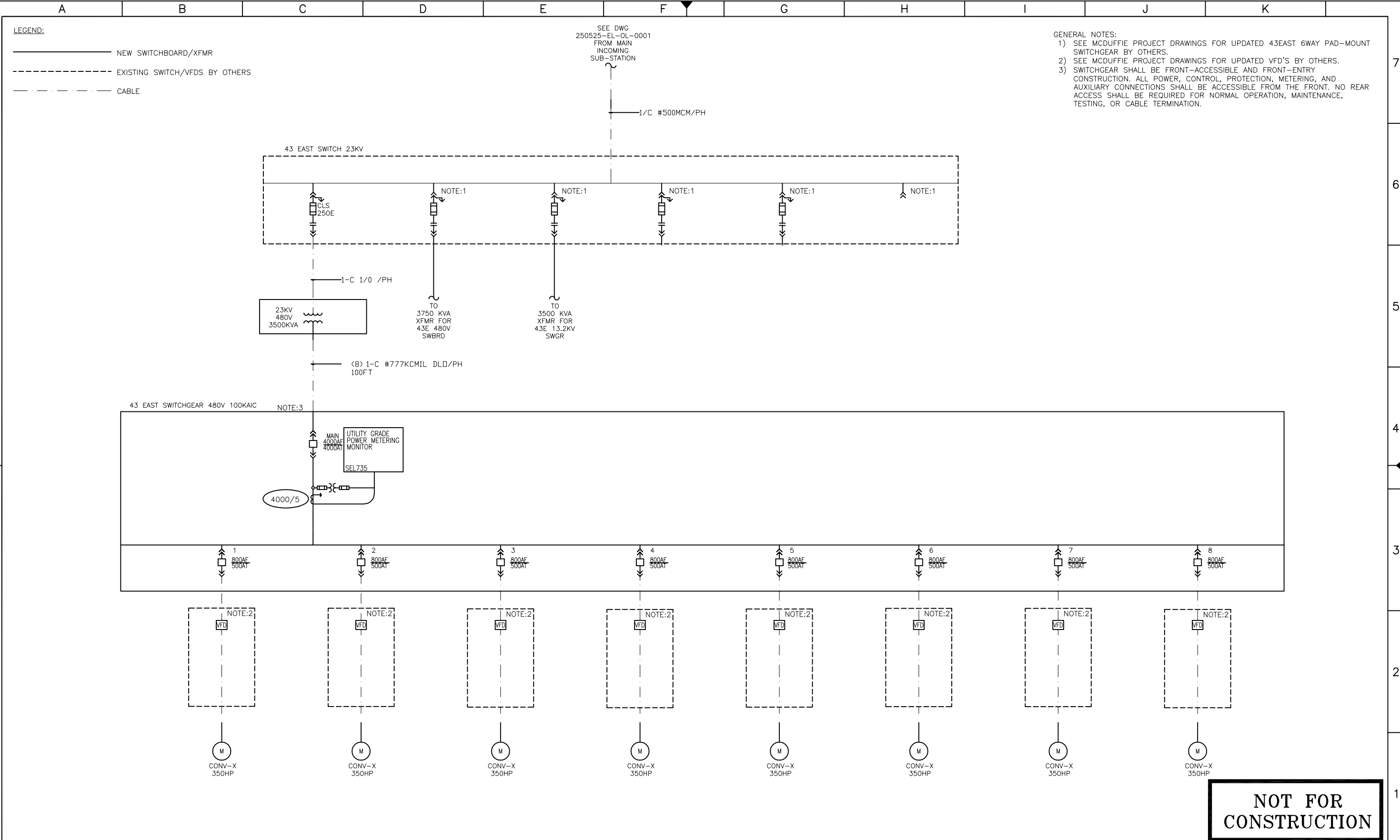
7. Documentation

The following documentation, in addition to tests results listed above, shall be provided by the supplier:

- General layout of equipment showing all dimensions, weights, location, and outline drawings showing the final assembled configuration
- Network architecture drawings
- Schematic and wiring diagrams
- Installation, operation, and maintenance instructions
- As-built drawings within two (2) weeks following shipment

The following reference documents are attached to this specification:

- McDuffie Coal Terminal Single Line Diagram 43 East Expansion: 250525-EL-OL-0016A
- 23 kV/ 480 V Transformer Data Sheet: 250525-EL-DS-004



NOT FOR
CONSTRUCTION

REVISION HISTORY										SCALE: NONE		DATE			250525 MCDUFFIE COAL TERMINAL SINGLE LINE DIAGRAM 43 EAST EXPANSION	DRAWING NUMBER 250525-EL-OL-0016A	REV. NO. B			
-					-					DESIGN BY:	MMS	03/15/26								
-					-					DRAWN BY:	KWS	03/15/26								
-					-					CHECKED BY:	TSW	03/15/26								
-					-					ALLIANCE ENGINEERING 1142 MONTILMAR DRIVE MOBILE AL 36609										
-					B	ISSUED FOR BID				KWS	TSW	9/21/26								
-					A	ISSUED FOR INFORMATION				KWS	TSW	8/13/2026								
NO.	DETAILS	MADE	CKD.	DATE	NO.	DETAILS	MADE	CKD.	DATE											

ALLIANCE PROJECT NUMBER: 250525.01