



CITY OF AUSTIN, TEXAS
Purchasing Office
INVITATION FOR BID (IFB)
OFFER SHEET

SOLICITATION NO: GGU0150REBID

COMMODITY/SERVICE DESCRIPTION: TRANSFORMER POWER DISTRIBUTION, 2500KVA, 3-PH, PAD, Y-Y

DATE ISSUED: DECEMBER 14, 2015

PRE-BID CONFERENCE TIME AND DATE: N/A

REQUISITION NO.: MAX61330

LOCATION: N/A

COMMODITY CODE: 28586

BID DUE PRIOR TO: 2:00 PM ON JANUARY 12, 2016

FOR CONTRACTUAL AND TECHNICAL ISSUES CONTACT THE FOLLOWING AUTHORIZED CONTACT PERSON:

BID OPENING TIME AND DATE: 2:15 PM JANUARY 12, 2016

GABRIEL GUERRERO

LOCATION: MUNICIPAL BUILDING, 124 W 8th STREET
RM 308, AUSTIN, TEXAS 78701

BUYER II

Phone: (512) 322-6060

E-Mail: gabriel.guerrero@austinenergy.com

LIVE BID OPENING ONLINE:

For information on how to attend the Bid Opening online, please select this link:

<http://www.austintexas.gov/department/bid-opening-webinars>

When submitting a sealed Offer and/or Compliance Plan, use the proper address for the type of service desired, as shown below:

Address for US Mail (Only)	Address for Fedex, UPS, Hand Delivery or Courier Service
City of Austin	City of Austin, Municipal Building
Purchasing Office-Response Enclosed for Solicitation # GGU0154	Purchasing Office-Response Enclosed for Solicitation # GGU0154
P.O. Box 1088	124 W 8 th Street, Rm 308
Austin, Texas 78767-8845	Austin, Texas 78701
	Reception Phone: (512) 974-2500

NOTE: Offers must be received and time stamped in the Purchasing Office prior to the Due Date and Time. It is the responsibility of the Offeror to ensure that their Offer arrives at the receptionist's desk in the Purchasing Office prior to the time and date indicated. Arrival at the City's mailroom, mail terminal, or post office box will not constitute the Offer arriving on time. See Section 0200 for additional solicitation instructions.

All Offers (including Compliance Plans) that are not submitted in a sealed envelope or container will not be considered.

The Vendor agrees, if this Offer is accepted within 150 calendar days after the Due Date, to fully comply in strict accordance with the Solicitation, specifications and provisions attached thereto for the amounts shown on the accompanying Offer.

SUBMIT 1 ORIGINAL AND 1 COPY OF YOUR RESPONSE

*****SIGNATURE FOR SUBMITTAL REQUIRED ON PAGE 3 OF THIS DOCUMENT*****

This solicitation is comprised of the following required sections. Please ensure to carefully read each section including those incorporated by reference. By signing this document, you are agreeing to all the items contained herein and will be bound to all terms.

SECTION NO.	TITLE	PAGES
0100	STANDARD PURCHASE DEFINITIONS	*
0200	STANDARD SOLICITATION INSTRUCTIONS	*
0300	STANDARD PURCHASE TERMS AND CONDITIONS	*
0400	SUPPLEMENTAL PURCHASE PROVISIONS	5
0500	SPECIFICATION E-1801	20
0600	BID SHEET – Must be completed and returned with Offer	1
0605	LOCAL BUSINESS PRESENCE IDENTIFICATION FORM – Complete & return	2
0700	REFERENCE SHEET – Complete and return if required	2
0800	NON-DISCRIMINATION CERTIFICATION	*
0805	NON-SUSPENSION OR DEBARMENT CERTIFICATION	*
0810	NON-COLLUSION, NON-CONFLICT OF INTEREST, AND ANTI-LOBBYING CERTIFICATION	*
0835	NONRESIDENT BIDDER PROVISIONS – Complete & return	1
0900	MBE/WBE PROCUREMENT PROGRAM PACKAGE NO GOALS FORM – Complete & return	2

*** Documents are hereby incorporated into this Solicitation by reference, with the same force and effect as if they were incorporated in full text. The full text versions of these Sections are available, on the Internet at the following online address:**

http://www.austintexas.gov/financeonline/vendor_connection/index.cfm#STANDARDBIDDOCUMENTS

If you do not have access to the Internet, you may obtain a copy of these Sections from the City of Austin Purchasing Office located in the Municipal Building, 124 West 8th Street, Room #308 Austin, Texas 78701; phone (512) 974-2500. Please have the Solicitation number available so that the staff can select the proper documents. These documents can be mailed, expressed mailed, or faxed to you.

The undersigned, by his/her signature, represents that he/she is submitting a binding offer and is authorized to bind the respondent to fully comply with the solicitation document contained herein. The Respondent, by submitting and signing below, acknowledges that he/she has received and read the entire document packet sections defined above including all documents incorporated by reference, and agrees to be bound by the terms therein.

Company Name: _____

Company Address: _____

City, State, Zip: _____

Federal Tax ID No. _____

Printed Name of Officer or Authorized Representative: _____

Title: _____

Signature of Officer or Authorized Representative: _____

Date: _____

Email Address: _____

Phone Number: _____

*** Completed Bid Sheet, section 0600 must be submitted with this Offer Sheet to be considered for award**

Section 0605: Local Business Presence Identification

A firm (Offeror or Subcontractor) is considered to have a Local Business Presence if the firm is headquartered in the Austin Corporate City Limits, or has a branch office located in the Austin Corporate City Limits in operation for the last five (5) years, currently employs residents of the City of Austin, Texas, and will use employees that reside in the City of Austin, Texas, to support this Contract. The City defines headquarters as the administrative center where most of the important functions and full responsibility for managing and coordinating the business activities of the firm are located. The City defines branch office as a smaller, remotely located office that is separate from a firm's headquarters that offers the services requested and required under this solicitation.

OFFEROR MUST SUBMIT THE FOLLOWING INFORMATION FOR EACH LOCAL BUSINESS (INCLUDING THE OFFEROR, IF APPLICABLE) TO BE CONSIDERED FOR LOCAL PRESENCE.

NOTE: ALL FIRMS MUST BE IDENTIFIED ON THE MBE/WBE COMPLIANCE PLAN OR NO GOALS UTILIZATION PLAN (REFERENCE SECTION 0900).

USE ADDITIONAL PAGES AS NECESSARY

OFFEROR:

Name of Local Firm		
Physical Address		
Is your headquarters located in the Corporate City Limits? (circle one)	Yes	No
or		
Has your branch office been located in the Corporate City Limits for the last 5 years?		
Will your business be providing additional economic development opportunities created by the contract award? (e.g., hiring, or employing residents of the City of Austin or increasing tax revenue?)	Yes	No

SUBCONTRACTOR(S):

Name of Local Firm		
Physical Address		
Is your headquarters located in the Corporate City Limits? (circle one)	Yes	No
or		
Has your branch office been located in the Corporate City Limits for the last 5 years	Yes	No

Will your business be providing additional economic development opportunities created by the contract award? (e.g., hiring, or employing residents of the City of Austin or increasing tax revenue?)	Yes	No

SUBCONTRACTOR(S):

Name of Local Firm		
Physical Address		
Is your headquarters located in the Corporate City Limits? (circle one)	Yes	No
or		
Has your branch office been located in the Corporate City Limits for the last 5 years	Yes	No
Will your business be providing additional economic development opportunities created by the contract award? (e.g., hiring, or employing residents of the City of Austin or increasing tax revenue?)	Yes	No

Section 0700: Reference Sheet

Please include the following information:

Responding Company Name _____

1. Company's Name _____
Name and Title of Contact _____
Present Address _____
City, State, Zip Code _____
Telephone Number (____)_____ Fax Number (____)_____
Email Address _____

2. Company's Name _____
Name and Title of Contact _____
Present Address _____
City, State, Zip Code _____
Telephone Number (____)_____ Fax Number (____)_____
Email Address _____

3. Company's Name _____
Name and Title of Contact _____
Present Address _____
City, State, Zip Code _____
Telephone Number (____)_____ Fax Number (____)_____
Email Address _____

4. Company's Name _____
Name and Title of Contact _____
Present Address _____
City, State, Zip Code _____
Telephone Number (____)_____ Fax Number (____)_____
Email Address _____

5. Company's Name _____
Name and Title of Contact _____
Present Address _____
City, State, Zip Code _____
Telephone Number (____)_____ Fax Number (____)_____
Email Address _____

Section 0835: Non-Resident Bidder Provisions

Company Name _____

- A. Bidder must answer the following questions in accordance with Vernon's Texas Statutes and Codes Annotated Government Code 2252.002, as amended:

Is the Bidder that is making and submitting this Bid a "Resident Bidder" or a "non-resident Bidder"?

Answer: _____

- (1) Texas Resident Bidder- A Bidder whose principle place of business is in Texas and includes a Contractor whose ultimate parent company or majority owner has its principal place of business in Texas.
- (2) Nonresident Bidder- A Bidder who is not a Texas Resident Bidder.

- B. If the Bidder id a "Nonresident Bidder" does the state, in which the Nonresident Bidder's principal place of business is located, have a law requiring a Nonresident Bidder of that state to bid a certain amount or percentage under the Bid of a Resident Bidder of that state in order for the nonresident Bidder of that state to be awarded a Contract on such bid in said state?

Answer: _____ Which State: _____

- C. If the answer to Question B is "yes", then what amount or percentage must a Texas Resident Bidder bid under the bid price of a Resident Bidder of that state in order to be awarded a Contract on such bid in said state?

Answer: _____

Section 0900: Minority- and Women-Owned Business Enterprise (MBE/WBE) Procurement Program No Goals Form

SOLICITATION NUMBER:	GGU0150REBID
PROJECT NAME:	TRANSFORMER POWER DISTRIBUTION, 2500KVA, 3-PH, PAD, Y-Y

The City of Austin has determined that no goals are appropriate for this project. Even though goals were not assigned for this solicitation, the Bidder/Proposer is required to comply with the City's MBE/WBE Procurement Program, if areas of subcontracting are identified.

If any service is needed to perform the Contract and the Bidder/Proposer does not perform the service with its own workforce or if supplies or materials are required and the Bidder/Proposer does not have the supplies or materials in its inventory, the Bidder/Proposer shall contact the Small and Minority Business Resources Department (SMBR) at (512) 974-7600 to obtain a list of MBE and WBE firms available to perform the service or provide the supplies or materials. The Bidder/Proposer must also make a Good Faith Effort to use available MBE and WBE firms. Good Faith Efforts include but are not limited to contacting the listed MBE and WBE firms to solicit their interest in performing on the Contract, using MBE and WBE firms that have shown an interest, meet qualifications, and are competitive in the market; and documenting the results of the contacts.

Will subcontractors or sub-consultants or suppliers be used to perform portions of this Contract?

No _____ **If no, please sign the No Goals Form and submit it with your Bid/Proposal in a sealed envelope**

Yes _____ **If yes, please contact SMBR to obtain further instructions and an availability list and perform Good Faith Efforts. Complete and submit the No Goals Form and the No Goals Utilization Plan with your Bid/Proposal in a sealed envelope.**

After Contract award, if your firm subcontracts any portion of the Contract, it is a requirement to complete Good Faith Efforts and the No Goals Utilization Plan, listing any subcontractor, sub-consultant, or supplier. Return the completed Plan to the Project Manager or the Contract Manager.

I understand that even though goals were not assigned, I must comply with the City's MBE/WBE Procurement Program if subcontracting areas are identified. I agree that this No Goals Form and No Goals Utilization Plan shall become a part of my Contract with the City of Austin.	

Company Name	

Name and Title of Authorized Representative (Print or Type)	

Signature	Date

Minority- and Women-Owned Business Enterprise (MBE/WBE) Procurement Program No Goals Utilization Plan
 (Please duplicate as needed)

SOLICITATION NUMBER:	GGU0150REBID
PROJECT NAME:	TRANSFORMER POWER DISTRIBUTION, 2500KVA, 3-PH, PAD, Y-Y

PRIME CONTRACTOR / CONSULTANT COMPANY INFORMATION

Name of Contractor/Consultant			
Address			
City, State Zip			
Phone Number		Fax Number	
Name of Contact Person			
Is Company City certified?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	MBE <input type="checkbox"/> WBE <input type="checkbox"/> MBE/WBE Joint Venture <input type="checkbox"/>

I certify that the information included in this No Goals Utilization Plan is true and complete to the best of my knowledge and belief. I further understand and agree that the information in this document shall become part of my Contract with the City of Austin.

Name and Title of Authorized Representative (Print or Type)

Signature

Date

Provide a list of all proposed subcontractors / sub-consultants / suppliers that will be used in the performance of this Contract. **Attach Good Faith Effort documentation if non MBE/WBE firms will be used.**

Sub-Contractor / Sub-Consultant			
City of Austin Certified	MBE <input type="checkbox"/>	WBE <input type="checkbox"/>	Ethics / Gender Code: <input type="checkbox"/> Non-Certified
Vendor ID Code			
Contact Person		Phone Number	
Amount of Subcontract	\$		
List commodity codes & description of services			

Sub-Contractor / Sub-Consultant			
City of Austin Certified	MBE <input type="checkbox"/>	WBE <input type="checkbox"/>	Ethics / Gender Code: <input type="checkbox"/> Non-Certified
Vendor ID Code			
Contact Person		Phone Number	
Amount of Subcontract	\$		
List commodity codes & description of services			

FOR SMALL AND MINORITY BUSINESS RESOURCES DEPARTMENT USE ONLY:

Having reviewed this plan, I acknowledge that the proposer (HAS) or (HAS NOT) complied with City Code Chapter 2-9A/B/C/D, as amended.

Reviewing Counselor _____ **Date** _____ **Director/Deputy Director** _____ **Date** _____

**CITY OF AUSTIN
PURCHASING OFFICE
SUPPLEMENTAL PURCHASE PROVISIONS (IFB GGU0150REBID)**

The following Supplemental Purchasing Provisions apply to this solicitation:

1. **EXPLANATIONS OR CLARIFICATIONS:** (reference paragraph 5 in Section 0200)

All requests for explanations or clarifications must be submitted in writing to the Purchasing Office not later than (5) calendar days prior to bid opening. Submissions may be made via e-mail to: gabriel.guerrero@austinenergy.com or via fax at (512) 322-6580.

2. **BID EVALUATION AND AWARD**

A. All Offerors shall include pricing having no more than two (2) decimal places. The City will drop any decimal places in excess of two (2) to meet the two (2) decimal requirement.

B. Bids shall be evaluated by the total **owning** cost (TOC). Total owning cost (TOC) = bid amount + (cost of no-load losses) x (quoted guaranteed no-load losses) + (cost of load losses) x (quoted guaranteed load losses).

Cost of no- load losses = **\$ 6.461/watt**

Cost of load losses= **\$ 3.379/watt**

(See Austin Energy Specification E-1801, section 6.3.5 and 6.3.6, dated July 9, 2015)

3. **MANUFACTURER QUALIFICATION AND AWARD PROCESS:**

A. Offeror Qualification & Award Process

i. The City will award to the Lowest Responsible Offeror. The apparent Lowest Responsible Offeror, may, at the City's option, be further evaluated to ensure compliance with the requirements of the Solicitation.

ii. The City will provide a questionnaire/checklist for the Offeror to complete in response to the categories list below. Further evaluation, including verification of the Offeror's response will take place at the manufacturing facility that will be used to produce the products Offered to the City for this Solicitation. The evaluation will be conducted by personnel designated by the City. The following categories will be evaluated to verify compliance with the requirements of this Solicitation:

- (1) Technical Organization
- (2) Analytical Capability
- (3) Manufacturing Facilities and Personnel
- (4) Manufacturing Process
- (5) Test Facilities and Personnel
- (6) Quality Control and Quality Assurance
- (7) Record of Performance
- (8) Repair Facility
- (9) Installation and Startup
- (10) Field Service

iii. AE will supply a detailed audit report based on the evaluation to the audited Offeror within ten (10) working days of evaluation.

iv. If the Offeror passes the evaluation, the Offeror will be recommended for Contract Award. If the Offeror does not pass the evaluation, the next apparent Lowest Responsible Offeror, may, at the City's option, be further evaluated to ensure compliance with the requirements of this Solicitation. This process will continue until the Lowest Responsible Offeror is determined by the City.

**CITY OF AUSTIN
PURCHASING OFFICE
SUPPLEMENTAL PURCHASE PROVISIONS (IFB GGU0150REBID)**

4. **INSURANCE:** Insurance is required for this solicitation.
- A. **General Requirements:** See Section 0300, Standard Purchase Terms and Conditions, paragraph 32, entitled Insurance, for general insurance requirements.
- i. The Contractor shall provide a Certificate of Insurance as verification of coverages required below to the City at the below address prior to contract execution and within 14 calendar days after written request from the City. Failure to provide the required Certificate of Insurance may subject the Offer to disqualification from consideration for award
 - ii. The Contractor shall not commence work until the required insurance is obtained and until such insurance has been reviewed by the City. Approval of insurance by the City shall not relieve or decrease the liability of the Contractor hereunder and shall not be construed to be a limitation of liability on the part of the Contractor.
 - iii. The Contractor must also forward a Certificate of Insurance to the City whenever a previously identified policy period has expired, or an extension option or holdover period is exercised, as verification of continuing coverage.
 - iv. The Certificate of Insurance, and updates, shall be mailed to the following address:

City of Austin Purchasing Office
Attn: [Gabriel Guerrero \(All City Contracts\)](#)
721 Barton Springs Road
Austin, Texas 78704
- B. **Specific Coverage Requirements:** The Contractor shall at a minimum carry insurance in the types and amounts indicated below for the duration of the Contract, including extension options and hold over periods, and during any warranty period. These insurance coverages are required minimums and are not intended to limit the responsibility or liability of the Contractor.
- i. **Worker's Compensation and Employers' Liability Insurance:** Coverage shall be consistent with statutory benefits outlined in the Texas Worker's Compensation Act (Section 401). The minimum policy limits for Employer's Liability are \$100,000 bodily injury each accident, \$500,000 bodily injury by disease policy limit and \$100,000 bodily injury by disease each employee.
 - (1) The Contractor's policy shall apply to the State of Texas and include these endorsements in favor of the City of Austin:
 - (a) Waiver of Subrogation, Form WC420304, or equivalent coverage
 - (b) Thirty (30) days Notice of Cancellation, Form WC420601, or equivalent coverage
 - ii. **Commercial General Liability Insurance:** The minimum bodily injury and property damage per occurrence are \$500,000 for coverages A (Bodily Injury and Property Damage) and B (Personal and Advertising Injury).
 - (1) The policy shall contain the following provisions:
 - (a) Contractual liability coverage for liability assumed under the Contract and all other Contracts related to the project.
 - (b) Contractor/Subcontracted Work.
 - (c) Products/Completed Operations Liability for the duration of the warranty period.
 - (d) If the project involves digging or drilling provisions must be included that provide Explosion, Collapse, and/or Underground Coverage.
 - (2) The policy shall also include these endorsements in favor of the City of Austin:
 - (a) Waiver of Subrogation, Endorsement CG 2404, or equivalent coverage
 - (b) Thirty (30) days Notice of Cancellation, Endorsement CG 0205, or equivalent coverage
 - (c) The City of Austin listed as an additional insured, Endorsement CG 2010, or equivalent coverage
 - iii. **Business Automobile Liability Insurance:** The Contractor shall provide coverage for all owned, non-owned and hired vehicles with a minimum combined single limit of \$500,000 per

**CITY OF AUSTIN
PURCHASING OFFICE
SUPPLEMENTAL PURCHASE PROVISIONS (IFB GGU0150REBID)**

occurrence for bodily injury and property damage. Alternate acceptable limits are \$250,000 bodily injury per person, \$500,000 bodily injury per occurrence and at least \$100,000 property damage liability per accident.

- (1) The policy shall include these endorsements in favor of the City of Austin:
 - (a) Waiver of Subrogation, Endorsement CA0444, or equivalent coverage
 - (b) Thirty (30) days Notice of Cancellation, Endorsement CA0244, or equivalent coverage
 - (c) The City of Austin listed as an additional insured, Endorsement CA2048, or equivalent coverage.

C. **Endorsements:** The specific insurance coverage endorsements specified above, or their equivalents must be provided. In the event that endorsements, which are the equivalent of the required coverage, are proposed to be substituted for the required coverage, copies of the equivalent endorsements must be provided for the City’s review and approval.

5. **DELIVERY REQUIREMENTS:**

<p>Delivery Location:</p> <p>City of Austin - Austin Energy Decker Transformer Shop 10001 Decker Lane Austin, TX 78724</p> <p>Contact: Richard French @ 512-505-7186 and/or richard.french@austinenergy.com 24 and 48 hours prior to delivery.</p>	<p>Receiving Hours :</p> <p>Monday through Friday Hours:8:00 a.m. to 3:00 p.m.</p>
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- A. Delivery is to be made within the delivery time specified by the awarded contractor’s bid sheet after the order is placed in writing. All orders must be shipped complete unless arrangements for partial shipments are made in advance.
- B. The Contractor shall provide, with each delivery, a Shipping or Delivery Ticket showing the description of each item, quantity, unit price and P.O. Number.
- C. Unless requested by the City, deliveries shall not be made on City-recognized legal holidays (see paragraph 51 in Section 0300).

6. **WARRANTY:** (reference paragraphs 21 in Section 0300)

The minimum warranty period shall be 18 months from the date of the final acceptance of all goods, or date of acceptance of any replacement deliverables.

7. **INVOICES and PAYMENT:** (reference paragraphs 12 and 13 in Section 0300)

- A. Invoices shall contain a unique invoice number and the information required in Section 0300, paragraph 12, entitled “Invoices.” Invoices received without all required information cannot be processed and will be returned to the vendor.

Invoices shall be mailed to the below address:

**CITY OF AUSTIN
PURCHASING OFFICE
SUPPLEMENTAL PURCHASE PROVISIONS (IFB GGU0150REBID)**

	CITY OF AUSTIN
Department	AUSTIN ENERGY
Attn:	PAYMENT SECTION
Address	P.O. BOX 3546
City, State Zip Code	AUSTIN, TX. 78764

- B. The Contractor agrees to accept payment by either check or Electronic Funds Transfer (EFT) for all goods and/or services provided under the Contract.

8. MATERIALS SPECIFICATIONS/DESCRIPTIVE LITERATURE:

- A. Bidder should provide a complete bid including manufacturer's descriptive literature for the transformers bidding including the type of construction to be used, features of the design, and accessories such as, but not limited to bay-o-net fuse holder, temperature indicator, pressure-relief device, liquid level gauge and loadbreak switch. Catalog numbers, cutsheets and other means of identification should also be furnished.
- B. The failure of the materials specifications/descriptive literature to show that the product offered conforms to the requirements of the Solicitation shall result in rejection of the Offer.
- C. Failure to submit the materials specifications/descriptive literature as part of the Offer may subject the Offer to disqualification from consideration for award.
- D. Design drawings, which demonstrate compliance with City of Austin Specifications, should be submitted with the bid (One original and one copy).**
- E. Engineered Drawings, signed and sealed by a registered Professional Engineer, shall be sent within two (2) weeks of Contract award to the following address (2 copies):**

	City of Austin
Department	Austin Energy, New Service Delivery, Standards Section
Attn:	Michael Pittman 512- 505-7678 Email: michael.pittman@austinenergy.com
Address	4411 Meinardus Drive
City, State Zip Code	Austin, Texas 78744

9. HAZARDOUS MATERIALS:

- A. If this Solicitation involves hazardous materials, the Offeror shall furnish with the Offer Material Safety Data Sheets (MSDS), (OSHA Form 20), on all chemicals and hazardous materials specifying the generic and trade name of product, product specification, and full hazard information including receiving and storage hazards. Instructions, special equipment needed for handling, information on approved containers, and instructions for the disposal of the material are also required.
- B. Failure to submit the MSDS as part of the Offer may subject the Offer to disqualification from consideration for award.

**CITY OF AUSTIN
PURCHASING OFFICE
SUPPLEMENTAL PURCHASE PROVISIONS (IFB GGU0150REBID)**

- C. The MSDS, instructions and information required in paragraph "A" must be included with each shipment under the contract.
10. **CONTRACT MANAGER:** The following person is designated as Contract Manager, and will act as the contact point between the City and the Contractor during the term of the Contract:

Brantley Gosey
Electric Service Delivery, Standards Section

City of Austin - Austin Energy
St. Elmo Service Center

4411-B Meinardus Dr.
Austin, Texas 78744

Phone number: (512) 505-7641
E-mail address: brantley.gosey@austinenergy.com

*Note: The above listed Contract Manager is not the authorized Contact Person for purposes of the **NON-COLLUSION, NON-CONFLICT OF INTEREST, AND ANTI-LOBBYING Provision** of this Section; and therefore, contact with the Contract Manager is prohibited during the no contact period.

AUSTIN ENERGY

PURCHASE SPECIFICATION

FOR

**TRANSFORMER, DISTRIBUTION, Y-Y, THREE-PHASE, PAD-
MOUNTED, DEADFRONT, DISTRIBUTED GENERATION**

2500 KVA

DATE	PREPARED BY	ISSUANCE/REVISION	APPROVAL PROCESS SUPV. / MATERIALS SUPV.
08-31-15	Brantley Gosey	Issuance	
10-21-15	Brantley Gosey	Revision	
12-01-15	Brantley Gosey	Revision	
12-02-15	Dennis Patrick	Revision	

REASON FOR REVISION	AFFECTED PARAGRAPHS
10-21-15: Updated DOE Requirements	Section 6.2
12-01-15: Pad and Conduit Requirements	Section 5.8
12-02-15: Added IFD Requirement	Section 3.6.4

This specification, until rescinded, shall apply to each future purchase and contract for the commodity described herein.
Retain for future reference.

1.0 SCOPE AND CLASSIFICATION

1.1 Scope

This specification describes the minimum acceptable requirements for 3-phase, pad-mounted, 60-Hertz, Y-Y Grd. connected, natural ester fluid, self-cooled, compartmental type, dead front distribution transformers, rated 2500 kVA. Primary voltage rating 12470Y/7200 and secondary voltage rating 480Y/277

The transformers supplied under this specification are intended for use on concrete slabs and shall be designed for serving underground distribution electrical facilities. (See Attachment VI)

The City of Austin Electric Utility Department is hereinafter referred to as Austin Energy (AE).

1.2 Classification

Any item supplied under these specifications, but not in complete compliance with these specifications, shall be subject to rejection.

All manufacturers furnishing transformers under these specifications shall have at least five years of experience in the manufacture and sale of 3-phase- pad-mounted distribution transformers.

2.0 APPLICABLE SPECIFICATIONS

Transformers supplied in accordance with this specification shall comply with applicable provisions of the latest NEMA, IEEE, ANSI, ASTM, NESC, and NEC standards relating to distribution transformers. In case of conflict between any of the standards mentioned in this specification and the contents of this document, the AE specification shall govern.

All characteristics, definitions and terminology, except that specifically covered in this specification shall be in accordance with the latest revisions of the following standards:

2.1 C57.12.00

General Requirements for Liquid-Immersed Distribution, Power and Regulating Transformers

2.2 C57.12.26

Pad-Mounted, Compartmental-Type, Self-Cooled, Three-Phase Distribution Transformers with Separable Insulated High-Voltage Connectors; High Voltage, (34,500 GrdY/19,920 Volts and Below and 2500 kVA and Smaller Requirements).

2.3 C57.12.28

Switchgear and Transformers - Pad-Mounted Equipment - Enclosure Integrity

2.4 C57.12.34

IEEE Standard Requirements for Pad-Mounted, Compartmental-Type, Self-Cooled, Three-Phase Distribution Transformers (2500 kVA and Smaller) - High Voltage: 34500GrdY/19920 Volts and

Below; Low-Voltage: 480 Volt 2500 kVA and Smaller.

2.5 C57.12.70

Terminal Markings and Connections for Distribution Power Transformers

2.6 C57.12.80

Standard Terminology for Power and Distribution Transformers

2.7 C57.12.90

Standard Test Code for Liquid-Immersed Distribution, Power, and Regulating Transformers and Guide for Short-Circuit Testing of Distribution and Power Transformers.

2.8 NEMA TR-1

Transformers, Regulators and Reactors

2.10 C.57.147

Acceptance and Maintenance of Natural Ester Fluids in Transformers

2.11 DOE CFR Title 10, Volume 3, Chapter II, Subchapter D, Part 431, Subpart K

Distribution Transformers

3.0 FUNCTIONAL REQUIREMENTS

3.1 FUSING

2500 kVA transformers shall be equipped with a Cooper Power Systems silver-plated bayonet draw-out fuse holder assembly #4038804B03M or buyer approved equivalent with high amp overload expulsion fuse or solid link in series with a partial-range, ester fluid immersed, current-limiting fuse as listed below.

	Loop-Feed	Both	Radial Feed
<u>KVA</u>	<u>Cooper Fuse Link #</u>	<u>Cooper ELSP #</u>	<u>Cooper Solid Link #</u>
2500	4038361C05CB	CBUC15125C100*	403861C10CB

* Indicates parallel fuse application – use two (2) fuses

Bay-o-net type fuses shall be designed so that the fuses can be removed by using a hot stick. A metal oil-drip shield shall be furnished directly beneath the bay-o-net fuse. Lead connections to the partial-range current-limiting fuse shall be made using bolts, to assure solid electrical and mechanical connections.

3.2 BUSHINGS AND TERMINALS

The primary bushings and parking stands for the loop-feed dead-front transformers shall be arranged as per the following:

Loop-feed dead-front transformers shall be constructed according to IEEE C57.12.26 Figures 6A and 7. The transformer shall be provided with six high voltage bushing wells (IEEE 386), externally clamped, and eight parking stands to permit operating the transformer in a looped primary system. The high-voltage leads shall be of such length as to permit field replacement of bushing wells.

All bushing wells shall have a removal stud for field replacement.

Low-voltage line and neutral terminals shall be in accordance with IEEE C57.12.26 Figure 7 and 8(a).

All secondary terminals shall be tin-plated copper and shall be in compliance with IEEE C57.12.26, Figures 9(a), 9(b), or 9(c), except that the number of holes in the terminals shall be as follows:

<u>Transformer</u>	<u>Spade Terminal</u>
150 KVA and above	10-hole

Ten-hole and larger spades shall be furnished with additional insulated support, at the end farthest from the tank wall, without interfering with the use of any of the ten holes (Attachment III).

LV spade termination support brackets shall be mounted across and above the LV spades from the Low Voltage sidewall and the HV/LV steel barrier along with a horizontal strut. Tank wall support mounting is not allowed.

The low-voltage neutral bushing shall be an insulated bushing with a removable external ground connection. The ground strap shall be adequate to carry the fault current based on the rating of the transformer.

3.3 INTERNAL BUSHING LEADS

High-voltage bushing leads shall be trained and appropriately insulated to avoid dielectric breakdown between adjacent cables. Spacers, permanently held in place, should be used to prevent cables from failing phase-to-phase or phase-to-ground.

Low-voltage bushing leads shall create good electrical and strong mechanical connections.

3.4 HIGH-VOLTAGE TAPS

All transformers shall be provided with high-voltage taps as shown below:

<u>Low-Voltage Rating</u>	<u>KVA</u>	<u>Number of Taps</u>	<u>Size of Taps above and/or below Rated Voltage</u>
480Y/277 V	All	2	2 ½% above & below

The tap-changer handle shall be mounted for external operation and located in the high-voltage compartment.

3.5 SWITCHING

Loop-feed transformers: A 3-phase, gang-operated, four-position, under ester fluid load break switch shall be supplied on all loop-feed transformers. The switch shall have a minimum load break rating of 200 amps and a 3-shot make-and-latch rating of 10,000 amps, symmetrical. The connections to be made in each switching position are as follows:

<u>POSITION</u>	<u>SOURCE "A"</u>	<u>SOURCE "B"</u>	<u>TRANSFORMER COIL</u>
1 – 12 o'clock	OFF	ON	ON
2 – 3 o'clock	ON	ON	OFF
3 – 6 o'clock	ON	ON	ON
4 – 9 o'clock	ON	OFF	ON

The switch positions shall be clearly marked as to whether the source or coil is on or off. The switch handle shall be located in the high-voltage compartment. The switch shall be operable with a hook stick. The switch shall be a T-Blade Switch, Cooper Part # LS4BH3T12B or buyer approved equivalent.

3.6 ACCESSORY EQUIPMENT

The following equipment and devices shall be provided on the size transformers indicated:

- 3.6.1. All transformers shall have an oil-drain valve, with sampling device, located in the high-voltage compartment. The valve shall be a gate valve, not less than ½".
- 3.6.2. All transformers shall have a liquid-level gauge in the high-voltage compartment.
- 3.6.3. All transformers shall have a temperature indicator in the high-voltage compartment.
- 3.6.4. All transformers shall be equipped with a resettable device (which can be reset by trained personnel only) which detects and provides external indication of internal transformer faults, and also incorporates pressure relief functionality. The approved device is manufactured by IFD Corporation part number IFD-ORCA-10PSI-aA, or approved equal.

3.6.5. TERMINAL MARKING AND ANGULAR DISPLACEMENT

Terminal designations shall be as per IEEE C57.12.70. Terminals shall be clearly marked with oil-resistant yellow paint.

The identification of terminal connections shall be shown on the nameplate.

The angular displacement between the high- and low-voltage terminals shall be as per Figure 10, IEEE C57.12.26.

3.6.6. NAMEPLATE

As described in IEEE C57.12.00, the contractor shall affix a durable metal nameplate to each transformer. The nameplate shall be located in the low-voltage compartment and shall be readable with the cables in place.

The nameplate shall be made from anodized aluminum or non-rust stainless steel. The information contained on the nameplates shall be inscribed and painted black.

The nameplate shall conform to IEEE C57.12.00: Nameplate B for 500 kVA and below and Nameplate C for 750 kVA and above. All information shall be in English and foot-pound-seconds (fps) non-metric units of measure.

The nameplate shall indicate the current-limiting fuse on a circuit diagram.

The nameplate shall contain a permanent bar code that meets the following requirements:

Information: The bar code shall display the Manufacturer Identification Code (see Attachment I) and manufacturer's serial number.

Durability: The bar code shall last the lifetime of the transformer, as specified by IEEE C57.12.00, regarding the nameplate. The bar code shall be constructed such that, when using a contact-type bar code reader, the bar code shall be capable of a minimum of thirty successful scans.

Dimensions: The height of the bar code shall be either 0.24 inches or 15% of the bar-code length (L); whichever is greater (see Attachment II).

Character Size: The bar code print quality shall be in accordance with ANSI X3.182. The permanent bar code shall be of medium density, ranging from 4 to 6.9 characters per inch.

Bar Code Symbology: The bar code symbology shall be Code 39, also referred to as 3-of-9 bar code, using the 43-character ASCII set, in accordance with ANSI X3.4.

Orientation of the Bar Code Characters: The bar code characters shall be arranged in one line. A start character shall precede the manufacturer's code and a stop character shall follow the transformer serial number (see Attachment II).

Quiet Zones: A minimum quiet zone of 0.25" shall immediately precede and follow the bar codes.

Human-Readable Interpretation: A human-readable interpretation line shall be provided directly beneath the bar code, in accordance with ANSI MH10.8M. The interpretation of the 3-of-9 bar code shall be clearly identifiable with the bar-code symbol above. The preferred shapes of the human-readable interpretation shall conform to either ANSI X3.17 or ANSI X3.49. As an alternative, any human-readable font with characters no less than 3/32" in height is acceptable.

4.0 PERFORMANCE

4.1 INSULATION LEVEL

4.1.1. The high-voltage insulation shall be as follows:

<u>Rated High Voltage (Volts)</u>	<u>BIL (kV)</u>	<u>Insulation Class (kV)</u>
12470 Y	95	15

4.1.2. The low-voltage insulation level shall be as follows:

<u>Low Voltage Rating (Volts)</u>	<u>BIL (kV)</u>	<u>Insulation Class (kV)</u>
480Y/277	30	1.2

4.2 TEMPERATURE RISE LIMITS

The Temperature rise and loading conditions shall be in accordance with IEEE C57.12.00 section 5.11.

4.3 IMPEDANCE

The impedance voltage is the voltage required to circulate rated current through one of two specified windings of a transformer when the other winding is short-circuited, with the windings connected as for rated-voltage operation (IEEE C57.12.80).

In accordance with IEEE C57.12.00, section 9.2, the allowable impedance-voltage tolerance for any individual transformer shall be as follows:

<u>KVA Rating</u>	<u>Impedance Voltage</u>
750 - 2500	5.75% ± 7.5% (5.3% to 6.2%)

Any unit that is outside of the tolerance shown will be rejected. There is no additional tolerance allowed on these values.

5.0 MATERIAL

5.1 Core and Coil Construction

The transformer coils shall be designed to maintain the nameplate kVA rating throughout the temperature range. All materials used shall be of the 65°C (85°C Hot Spot) Class and shall be thoroughly tested for compatibility with all transformer components before use in the design. Only thermally upgraded, one hundred percent conduction, particle tested kraft paper shall be used for secondary layer insulation. Provisions shall be made for securing the sheet windings and the primary windings in position during construction and for short-circuit conditions. Insulating paper shall be thermally cured under pressure, epoxy coated, diamond pattern type.

The core shall be manufactured with burr-free, grain-oriented silicon steel. Amorphous core shall not be permitted.

5.2 Core-Coil Assembly

The core and coil, after assembly, shall be mounted in a rigid steel frame, constructed in such a way as to hold the coil in a rigid position within the core window without placing undue stress on the core or short circuiting the laminations at any point.

5.3 Tank

The transformer tank shall have high- and low-voltage cable terminating compartments. The transformer tank and compartment shall be of sufficient construction to conform to IEEE C57.12.28.

The tank shall be of sufficient strength to withstand an internal pressure of 7 psig without permanent distortion and 12 psig without permanent rupturing or displacing other components of the transformer or affecting cabinet security.

A one-inch pipe plug shall be provided, for filling, taking oil samples, and pressure testing. This plug shall be located in the lower left hand corner of the high voltage compartment.

The tank cover may be either the bolted-on or welded-on type, as per IEEE C57.12.26. The welded-on cover shall have handhold(s) as per IEEE C57.12.26.

Tank grounding shall be as per IEEE C57.12.26.

All exterior nuts and bolts shall be of a corrosion-resistant material.

Oil restraining welds shall be horizontal and preferably robotically applied to limit weld oil leak and corrosion incidence.

Coolers shall be rigidly welded to the tank wall and only horizontal welding is allowed. Vertical or downhill welding is not allowed when affixing cooler banks to tank sides.

Front bottom sill shall be removable to allow for maintenance replacement if needed.

The transformer tank shall be of rectangular shape and shall only have internal bracing for structural rigidity to prevent external corrosion, reduce external welding and improve paint coverage, with the exception of units with cooling radiators. External bracing is not allowed.

Tank base must be entirely removable to allow for maintenance replacement if needed.

Radiators shall be supported on all corner edges with round bar support. Round bar support stock shall be welded and connected to each radiator fin corner.

The transformer shall be of sealed-tank construction, which seals the interior of the tank from the atmosphere and which insures constant gas volume and oil volume. The transformer shall remain effectively sealed for a top-oil temperature range of -5°C to 105°C.

All required gaskets shall be made of high temperature Viton.

The Vendor shall place all labels required by AE Distribution Construction Standard #1000-14, and shown in Attachments IV and IV A, on the cabinet doors of each transformer. This includes the "3 in 1 - Danger High Voltage, One Call, Clearance Required," "kVA Size," and "NO PCBS" labels.

5.4 Dielectric Fluid

The dielectric fluid shall be a natural ester fluid electrical insulating and cooling liquid. The Coolant shall be a listed less-flammable fluid meeting the requirements of National Electrical Code Section 450-23 and National Electric Safety Code, section 15. The fluid shall be Factory Mutual Approved and be UL Classified.

The Dielectric Fluid supplied with all transformers shall be in accordance with IEEE C57.147.

The PCB content in the dielectric fluid shall be less than 1 ppm. The PCB content shall be shown on the nameplate of the transformer. A decal shall be placed on the transformer in accordance with Attachments IV and IV A. The decal shall be colored blue with white lettering. The decal shall be 6" tall by 6" wide and shall have the precise wording, in capital letters, "NO PCBS".

The manufacturer shall provide with their Bid certification that all transformer components are compatible with Dielectric Fluid provided.

5.5 Doors

Only conventional vertical-hinged, two-door design is acceptable. Door shall have a recessed, captive penta-head bolt that secures all access to doors. Door hinges and pins shall be SST 304 and welded construction with minimum 3/8 inch, plus or minus 1/32 of an inch pin size. Maximum spacing from corners shall be 8 inches and max spacing from centerline to centerline of welded hinges shall be 24 inches. Hinges shall be welded to cabinet side wall and door and shall permit easy door removal without damage to the cabinet and door paint when removing the door. All other designs, including clam-shell and flip-top door designs, are not acceptable.

The high voltage compartment door shall have a 19/64" hole drilled in the upper left hand corner 10" from the top and 10" from the left hand side. This hole shall have a field removable plug so that the transformer will accommodate a fault indicator light. The plug shall be designed so that if the plug is not removed the integrity of the enclosure still complies with IEEE C57.12.26 and C57.12.28 requirements. (Attachment IV)

5.6 Primer and Paint

All primer and paint shall be lead-free. The enclosure security and coating system shall be as per IEEE C57.12.28, as a minimum requirement. In addition to this IEEE standard, the unit shall be painted Munsell Green, with a minimum thickness of 5 mils.

Before painting, all welds shall be cleaned to remove welding flux, spatter and scale. All surfaces shall be cleaned and pretreated with a phosphate coating. After cleaning a cathodic epoxy electrocoat shall be applied by complete immersion of all parts. A final top coat of a 2K Urethane shall be applied after external parts are assembled.

5.7 HIGH-VOLTAGE AND LOW-VOLTAGE COMPARTMENTS

Doors on the high-voltage and low-voltage compartments shall be of sufficient size to provide adequate working space when opened.

With the low-voltage compartment door opened or removed, adequate safeguards shall isolate the high-voltage compartment. The high-voltage compartment shall be accessible only by releasing a pentahead bolt to allow the compartment door to be opened, or by some other equally secure method. If an insulating material is used for the barrier, it shall be supported or braced on all sides with metal strips.

The compartments shall have the following minimum dimensions:

<u>KVA</u>	<u>HV Compartment</u>	<u>LV Compartment</u>
75 - 2500	40.0" wide x 26.0" deep	30.0" wide x 26.0" deep

The opening on the bottom of all transformers shall have the following minimum dimensions:

<u>KVA</u>	<u>HV Compartment</u>	<u>LV Compartment</u>
75 - 2500	38.5" wide x 23.0" deep	28.5" wide x 23.0" deep

5.8 HANDLING AND MOUNTING FACILITIES

The transformer base shall be arranged for rolling in two directions, parallel to and at right angles to the centerline of the high-voltage bushings.

The lifting provision shall be in accordance with IEEE C57.12.26.

The base of the assembly shall be provided with a suitable flange to permit anchoring the unit on the pad from within the cable-terminating compartments.

The transformer and openings to the HV and LV compartments shall fit on Austin Energy's standard transformer pad in accordance to Construction Standard document 1438-90 of Austin Energy's Distribution Construction Standards Manual. The transformer shall completely cover all conduits and transformer shall not protrude over the pad edges. (See Attachment VI)

6.0 ROUTINE AND DESIGN TESTS

6.1 Routine Tests

The manufacturer shall perform the routine tests, on all transformers, that are specified in Section 8 of IEEE C57.12.00. All testing shall be performed as per IEEE C57.12.90.

6.2 Design and Other Tests

The manufacturer is to perform the following design and other tests on all transformers, as per Section 8, Table 21 of IEEE C57.12.00: Lightning Impulse (BIL), No-Load Loss, Load Loss, Excitation Current, and Impedance Voltage. All testing shall be performed as per IEEE C57.12.90.

All transformers supplied to AE shall meet or exceed the efficiency values in accordance with the latest revision of Department of Energy CFR Title 10, Volume 3, Chapter II, Subchapter D, Part 431, Subpart K – "Energy Efficiency Program for Certain Commercial and Industrial Equipment" as applicable. Certified test data by serial number shall be provided with each transformer.

The lab shall not be affiliated directly with the manufacturer of subject product(s). Tests performed on products() shall be according to (ANSI STD). Test results shall indicate the exact product number that the tests were performed on.

6.3 REQUIRED INFORMATION

For each item, the Bidder shall supply the following information on the Bid Sheet (Section 0600):

- 6.3.1. *Guaranteed No-Load Losses*, in watts, corrected to 20°C: Those losses which are incident to the excitation of the transformer. They are the losses of the transformer excited at rated voltage and frequency, but not supplying load. No-load losses are to be measured

as per IEEE C57.12.90.

6.3.2. *Guaranteed Load Losses*, in watts, corrected to 85°C: Those losses which are incident to the carrying of a specified load. They are the losses of the transformer excited at rated voltage, frequency, and current. Load losses are to be measured as per IEEE C57.12.90.

6.3.3. *Bid Amount*, per individual transformer.

6.4 ACCEPTANCE OF TRANSFORMER DELIVERY AND LOSSES EVALUATION

6.4.1. Manufacturer's Test Report

Prior to the delivery of a transformer, the manufacturer shall provide a manufacturer's test report to the AE Distribution Standards. The test report shall contain the information as shown in Attachment V.

AE will review each manufacturer's test report and will either reject any transformer that does not meet the requirements of this specification or pay a reduced price for the transformer, as calculated by the method in section 6.4.3 of this specification.

In addition to inspections and tests on incoming raw material, parts, sub-components and sub-assemblies, the manufacturer shall have a finished product quality audit program to assure a well-designed, safe, reliable and durable finished product. Records shall be kept to determine level of quality of products being manufactured and be made available to the Austin Energy upon request.

6.4.2. Incoming Inspection by AE

AE may test transformers at the point of delivery to verify and adjust, if necessary, the manufacturer's test-report data. AE will use the verified or adjusted data to assure compliance with this specification and to perform the transformer loss evaluation.

6.4.3. Transformer Loss Evaluation

In accordance with IEEE C57.12.00, section 9.3, actual losses on each individual transformer shall not exceed the manufacturer's guaranteed losses by more than the following percentages:

- a) No-Load Losses.....10%
- b) Total Losses.....6%

Any individual transformer having actual losses that exceed these limits will be subject to the following:

- a) An immediate fee of \$350.00
- b) Possible return of the transformer to the manufacturer, at the discretion of AE

Should AE elect to keep the transformer, a losses fee will be assessed on the individual transformer to offset the increased total owning cost of the high-loss transformer. The fee will be calculated according to the following formula:

$$\begin{aligned} \text{Losses Fee} = & (\$6.461/W)(\text{Measured No-Load Losses} - \text{Guaranteed No Load Losses}) \\ & + (\$3.379/W)(\text{Measured Load Losses} - \text{Guaranteed Load Losses}) \end{aligned}$$

6.4.4. Impedance Voltage Evaluation

Any individual transformer having a voltage impedance that does not fall within the acceptable range given in section 4.3 of this specification will not be accepted by AE and will be returned to the manufacturer at the manufacturer's expense.

6.4.5 Any transformers not complying with Department of Energy efficiency ratings in accordance with section 6.2 of this specification shall be rejected.

ATTACHMENT I

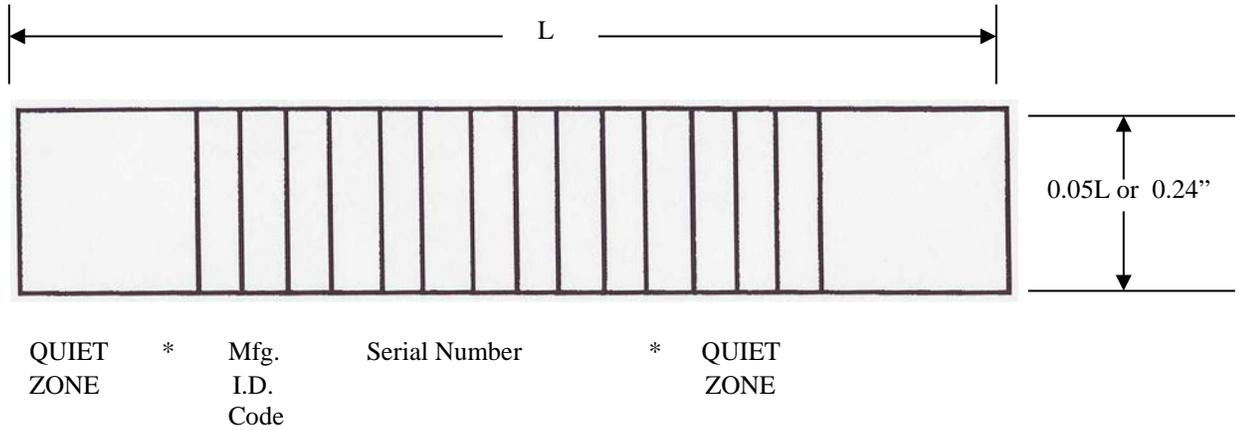
MANUFACTURER IDENTIFICATION CODES

ABB	-	ABB
CM	-	Central Maloney
CP	-	Cooper
GE	-	General Electric
HI	-	Howard Industries
KU	-	Kuhlman
CG	-	CG Power Systems

The Manufacturer Identification Codes suggested above represent, in part, codes that are utilized for bar coding distribution transformers. The above listing does not represent a complete list of distribution transformer manufacturers.

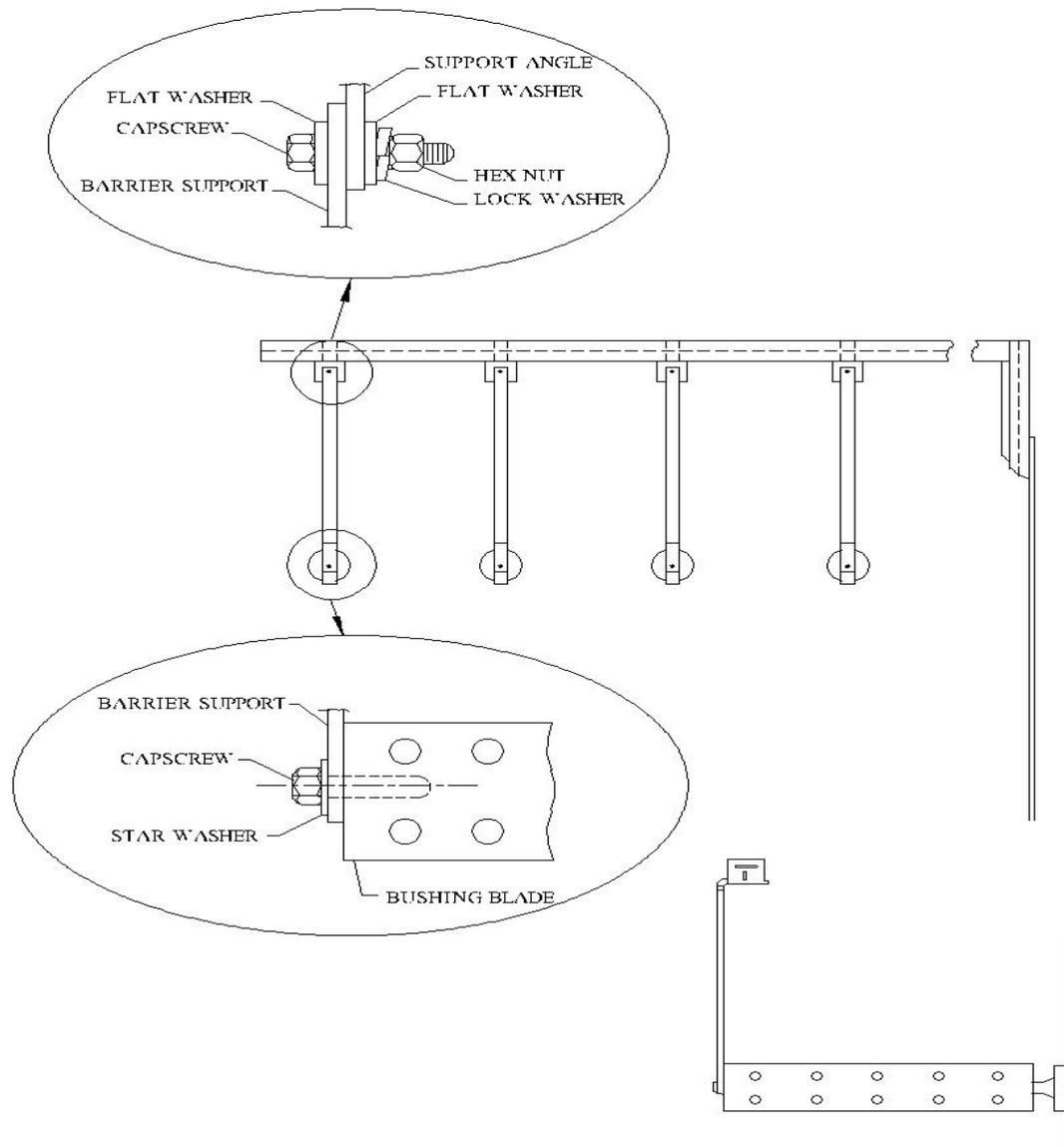
ATTACHMENT II

ORIENTATION OF BAR CODE CHARACTERS



* Start/Stop Character

ATTACHMENT III
TRANSFORMER SPADE SUPPORTS DRAWING

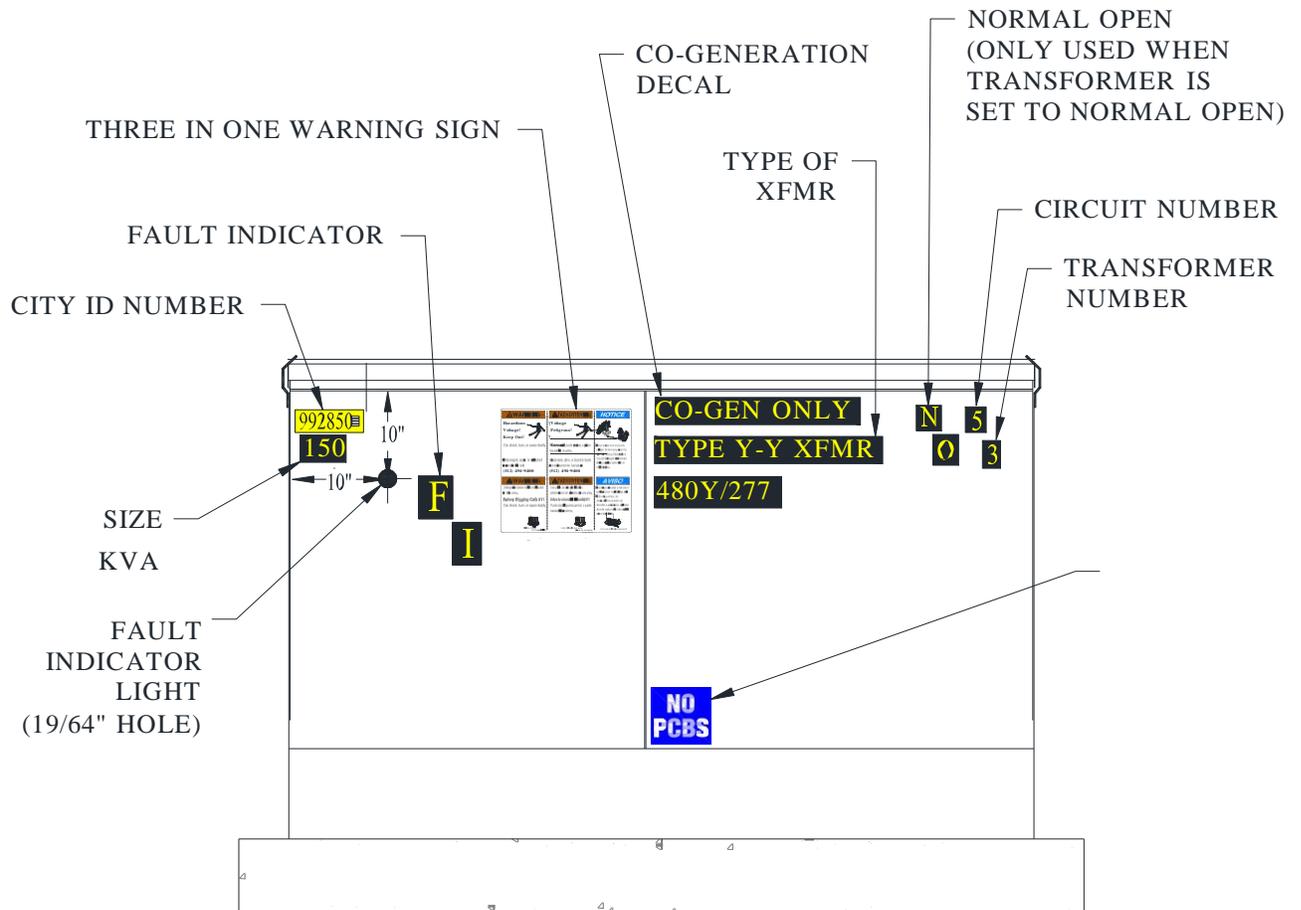


ATTACHMENT IV

 Rev: 09/15/15	POLE APPARATUS SIGNAGE SIGNAGE- COGEN W-SEC VOLTAGE	1000- 14C
		Sheet 1 of 1 05/15/06

1000-14C SIGNAGE-COGEN W-SEC VOLTAGE

TYPICAL SIGNAGE PLACEMENT



ATTACHMENT IV A

TYPICAL EXTERNAL SIGNAGE MATERIAL REQUIREMENTS OF 3-PHASE PAD-MOUNTED TRANSFORMERS

“NO PCBS” decal: 6 inch X 6 inch, blue. Base Film: 0.0035-inch cast polyvinyl chloride, with UV inhibitors as per MIL-M-22106A. Cyasorb UV-9 light absorber C14H1203. Gloss 80 UL 94 rated. Over lamination: 002PVF (polyvinylflouride) tedlar UV screening film from E.I. Dupont. Cold-seal bonded. Adhesive: 0.002-inch permanent acrylic hi-tack, with high-temperature-resistant Elasticisors for adhesion at 40 deg. F. PSTC test method: #1 modified for a 15 minute dwell time, with 2 mils of adhesive, 56 oz/inch width rating. Ink: Silkscreen type 4, with automotive grade pigments and binders, 0.0004-inch thick \pm 0.0001, inch high pigment volume concentration total PVC 40-50 (copper phthalocyanines). Liner: 0.0007-inch \pm 0.001-inch Kraft, coated one side chemical resistant. Salt spray 240 hours 5%, at 100 degrees, with no blistering, color change, or other material degradation. No effect when immersed in diesel fuel, motor oil, anti-freeze, detergent 2 %, ammonium hydroxide (12% and 39%), kerosene, acetic acid, acetone and water. Service temperature range: -40 to +170 deg. F. Minimum lifetime exterior durability of 15 years from installation date with proper surface preparation.

Approved Manufacture or equal: Mitrographers, catalog number COA-001

“SIZE KVA” decal: width as required, 2 7/8 inches tall, Engineer Grade, adhesive reflective vinyl. Yellow numbers, black background.

“SIZE SECONDARY” decal: width as required, 2-7/8 inches tall, Engineer Grade, adhesive reflective vinyl. Yellow numbers on Black Background.

“3 in 1” decal: Dimensions will be approximately 10” wide X 10.5” tall. Sign shall be worded as follows:
WARNING To Report Problems Call (512) 322-9100 HIGH VOLTAGE Hazardous voltage inside. Can shock, burn or cause death. Keep out if open or unlocked, immediately call electric power and light company.
ADVERTENCIA Para Reportar Problemas Llame al: (512) 322-9100 ALTA TENSION Contiene voltaje peligroso. Puede producir descarga o sacudida eléctrica, quemaduras o ausar muerte. Prohibida la entrada. si está abierto o sin llave, inmediatamente llame a la central eléctrica. WARNING To Report Problems Call: (512) 322-9100 Keep shrubs and structures at least 10 feet away from this side of equipment for safe utility maintenance and operation. ADVERTENCIA Para Reportar Problemas Llame al: (512) 322-9100 Mantenga arbustos y construcción por lo menos a 10 pies de distancia de este lado del equipo para seguridad en el mantenimiento y operación. ONE CALL SYSTEM of TEXAS 1-800-545-6005 CALL BEFORE YOU DIG IT’S THE LAW UNA LLAMADA SISTEMA de TEXAS 1-800-545-6005 LLAME ANTES DE EXCAVAR ES LA LEY.
Base film: .0035 cast polyvinylchloride with uv inhibitors mil-m-22106a. (cyasorb uv-9 light absorber c14h1203). Gloss 80 ul 94 rated. Overlamination: .002pvf (polyvinylflouride). Tedlar uv screening film from e.i. dupont. Cold seal bonded. Adhesive .002 permanent acrylic hi-tack with high temperature resistant elasticisors for adhesion at 40 degrees f. Pstc test method: #1 modified for a 15 min dwell time with 2 mils of adhesive 56 oz/inch width rating. Ink: silkscreen type 4 with automotive grade pigments and binders .0004" thick dry +/- .0001" high pigment volume concentration total pvc 40-50 (copper phthalocyanines). Liner: .0007" +/- .001" kraft coated one side. Chemical resistance: salt spray 240 hours 5% at 100 degrees f if no blistering, color change, or other material degradation. No effect when immersed in diesel fuel, motor oil, anti-freeze, detergent 2%, ammonium hydroxide (12% and 39%), kerosene, acetic acid, acetone and water. Service temperature range: -40 to + 170 degrees f. Labels shall have a two year shelf life and a minimum lifetime exterior durability of 15 years from installation date with proper surface preparation. All stick on signs will have a written guarentee of no fading or pealing for 15 years or they will be replaced in the field free of charge.

Approved Manufacturer or equal: Uticom, no catalog number
Electro mark, no catalog number
Mitrographers, no catalog number

“Y-Y XFMR” decal: width as required, 2 7/8 inches tall, Engineer Grade, adhesive reflective vinyl. Yellow numbers with black background.

“CO-GEN ONLY” decal: width as required, 2 7/8 inches tall, Engineer Grade, adhesive reflective vinyl. Yellow numbers, black background

ATTACHMENT V

AUSTIN ENERGY TRANSFORMER TEST REPORT FORM

(insert name of manufacturer)
 CERTIFIED TRANSFORMER TEST REPORT

VENDOR NAME: _____
 VENDOR PURCHASE ORDER NUMBER: _____
 AUSTIN ENERGY PURCHASE ORDER NUMBER: _____
 AUSTIN ENERGY STOCK NUMBER: _____

MANUFACTURER ORDER NUMBER: _____
 MFG CATALOGUE NUMBER: _____
 MANUFACTURER INVOICE NUMBER: _____
 MFG DRAWING NUMBER: _____
 TEST DATE: _____
 SHIP DATE: _____

<u>TYPE</u>	<u>PHASE</u>	<u>FREQUENCY</u>	<u>KVA</u>	<u>LOW VOLTAGE</u>	<u>HIGH VOLTAGE</u>
ANSI 1	3PH	60 Hz			

<u>SERIAL</u> <u>NUMBER</u>	<u>PERCENT</u> <u>IMPEDANCE</u>	<u>EXCITING</u> <u>CURRENT</u>	<u>MEASURED</u> <u>NO-LOAD LOSS</u>	<u>LOSSES</u> <u>MEASURED</u> <u>LOAD LOSS</u>	<u>MEASURED</u> <u>TOTAL LOSS</u>	<u>%REGULATION AT</u> <u>80% PF</u>	<u>100% PF</u>	<u>BIL (KV)</u>	<u>DOE</u> <u>EFF %</u>
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GUARANTEED LOSSES:

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NOTES:

- 1) Losses are measured at 100% of rated voltage. No-load loss data corrected to 20° C. Load loss data corrected to 85°C.
- 2) All transformers were manufactured using insulating fluid containing less than 1 PPM PCB. ASTM D4059 Test Certification available.
- 3) The winding temperature rise above ambient temperature does not exceed 65°C.
- 4) Exciting current is measured at 100% rated load.
- 5) All transformers listed have received and passed the following test, in accordance with ANSI/IEEE C57.12.00, latest edition: Continuity, Ratio, Leak, Polarity and Phase Relationship, Routine Impulse, Induced Voltage, Applied Voltage.

THE MANUFACTURER CERTIFIES THAT THIS TEST REPORT IS A TRUE AND ACCURATE RECORD OF FINAL PRODUCTION-LINE TEST THAT WERE CONDUCTED IN ACCORDANCE WITH CURRENT ANSI TRANSFORMER TEST STANDARDS, AND THAT THE ABOVE TRANSFORMERS WITHSTOOD THESE TESTS.

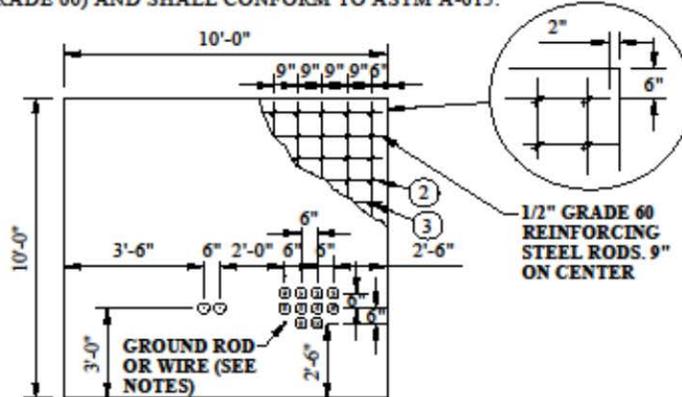
NAME OF CERTIFYING INDIVIDUAL: _____

ATTACHMENT VI

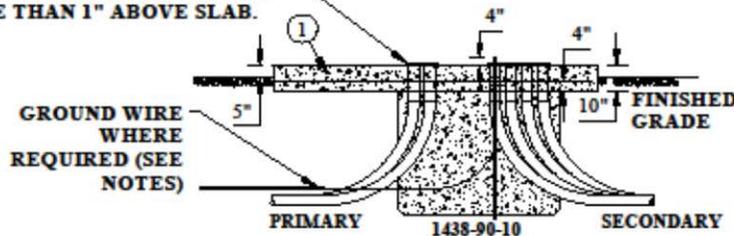
 Rev: 10/22/15	CIVIL	1438-90	
	PADS, CLEARANCES AND BARRIERS		Sheet 1 of 3
	PAD CIP 3PH XFMR 10FT X 10FT (75-2500KVA)		9/11/05

1438-90 PAD CIP 3PH XFMR 10FT X 10FT (75-2500KVA)

TOP SLAB CONCRETE SHALL CONFORM TO ASTM C-150 AND SHALL HAVE A COMPRESSIVE STRENGTH OF 3000 LBS. AT 28 DAYS. CONCRETE SLUMP SHALL BE NO MORE THAN 4-IN. MAXIMUM AGGREGATE SIZE SHALL NOT EXCEED 1-1/2 IN. REINFORCING RODS SHALL BE INTERMEDIATE GRADE (GRADE 60) AND SHALL CONFORM TO ASTM A-615.



NOTE: BELL ENDS SHALL BE NO MORE THAN 1" ABOVE SLAB.



BOTTOM SLAB CONCRETE SHALL BE 4 SACK AND CONFORM TO ASTM C-150 AND SHALL HAVE A COMPRESSIVE STRENGTH OF 2000 LBS. AT 28 DAYS. MAXIMUM AGGREGATE SIZE SHALL NOT EXCEED 3/8 IN. REINFORCING RODS SHALL BE INTERMEDIATE GRADE (GRADE 60) AND SHALL CONFORM TO ASTM A-615.

NOTES:

1. A MAXIMUM OF 10 CONDUITS AND 10 SETS OF CABLE PER PHASE CAN BE INSTALLED IN THE ARRANGEMENT AND NUMERICAL ORDERED AS SHOWN.
2. FOR SHELL BUILDINGS, STUB ALL SPARE CONDUITS AT THE BUILDING SERVICE RISER.
3. 35' OF 2/0 STRANDED BARE SOFT-DRAWN, TINNED COPPER GROUND OR 5/8"x8' CU. COPPERWELD GROUND ROD. (SEE GROUNDING DETAIL 1488-10 OR 1488-20)
4. STEEL BARRIER POSTS WILL BE REQUIRED WHENEVER LOAD BREAK SECTIONALIZING CABINET IS PAD INSTALLED WITHIN 4' OF A TRAFFIC AREA. (SEE BARRIER POST DETAIL DRAWING 1400-10, FOR CONSTRUCTION DETAILS AND CLEARANCE REQUIREMENTS.)
5. COMPACT SOIL BENEATH PADS TO AT LEAST 95% COMPACTION, PRIOR TO INSTALLING PADS. AUSTIN ENERGY MUST INSPECT PAD AND APPROVE PRIOR TO POURING ANY CONCRETE.
6. GRADE AREA AROUND THE PAD, SO THAT DRAINAGE IS ALWAYS AWAY FROM THE PAD. RETAINING WALLS AND DRAINAGE CHANNELS MAY BE REQUESTED BY THE UTILITY, TO PREVENT WATER AND DEBRIS FROM ACCUMULATING ON THE ROAD.
7. 90° (MIN. 24" RADIUS) CONDUIT BEND SHALL BE COMPLETELY CONCRETE ENCASED.
8. BELL ENDS SHALL BE 1" ABOVE SLAB.