

# Utilities Commission, City of New Smyrna Beach

## Invitation to Bid Purchase of Electric Transformers

ITB # 03-11

Date Issued: November 8, 2010

ITB Document on the UCNSB Web Site Link: <http://www.ucnsb.net/purchasing/bid-information.aspx>

Utilities Commission, City of New Smyrna Beach (UCNSB) is seeking bids from qualified vendors to provide transformers to the Commission.

Notice is hereby given that sealed bids will be received at 200 Canal Street, New Smyrna Beach, FL 32168, until **2:30 p.m., December 1, 2010** at which time they will be opened in the Finance Department.

### DIRECT INQUIRIES TO:

Email:  
Telephone Number:  
Fax Number:

Caleb Fisher  
Purchasing Agent  
[cfisher@ucnsb.org](mailto:cfisher@ucnsb.org)  
(386) 424-3045  
(386) 424-2748

### Mail To:

Utilities Commission City of NSB  
Attn: Materials Manager  
PO Box 100  
New Smyrna Beach, Florida 32170-0100

### Delivery to:

200 Canal Street  
New Smyrna Beach, FL 32168

**Upon receipt of this ITB document, any and all communications regarding this proposal must be made only to the Purchasing Agent as noted above. Any violation of this condition could result in bid disqualification.**

*This is a Sealed Bid - Fax or electronic replies will not be accepted.*

Utilities Commission, City of New Smyrna Beach operates in accordance with the State of Florida Sunshine Laws.

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## I. GENERAL CONDITIONS

**1. INSTRUCTIONS TO BIDDERS:** To insure consideration of your bid, please follow these instructions. Bids not in compliance with conditions specified herein are subject to rejection.

**2. SEALED BIDS:** AN ORIGINAL AND 3 COPIES must be in the Finance Department by the date and time specified. The Bid Reply, Evaluation Factors, Questionnaire, Attachment "A", Attachment "B", and any addenda issued must be included. Proposals must be sealed and clearly labeled with the following information:

- a. Name and address of Bidder
- b. Bid number
- c. Date and time of Bid Opening

**3. PREPARATION OF BID:** All information shall be entered in ink, typewritten, or produced by computer. It is your responsibility to make certain that unit prices and extended prices are correct. The UCNSB will not be responsible for errors or omissions made by the bidder in determining bid price(s). The bid must contain a manual signature of an authorized representative of the agency bidding. In order to insure uniformity, bids must be submitted on this Bid Form and the attached pages.

**4. NO BID:** If unable to submit a bid, please sign and return the Bid Reply Sheet by return mail or fax advising the reason for not submitting a bid. To ensure inclusion in future bids, a Bidder **should** submit a "NO BID" to be received by the Finance Department no later than the stated bid opening date and time.

**5. OBLIGATION OF BIDDER:** By submitting a BID, the bidder covenants and agrees that they have satisfied themselves from their own investigation of the conditions to be met, that they fully understand their obligation and that they will not make any claim for, or have right to cancellation or relief from the contract because of any misunderstanding or lack of information.

**6. QUESTIONS REGARDING BID:** UCNSB has made every effort to provide prospective vendors with the information needed to appropriately respond to this bid. UCNSB realizes that some clarification, interpretation, or additional information may be required.

**Questions regarding any portion of this bid shall be directed, in writing, to:**

Utilities Commission, City of New Smyrna Beach  
Caleb Fisher, Purchasing Agent  
PO Box 100  
New Smyrna Beach, FL 32170-0100

Questions may also be submitted by e-mail (cfisher@ucnsb.org) or faxed to the attention of the Purchasing Agent at (386) 424-2748.

All such requests must be received no later than 2:00PM, Eastern Standard Time, **November 16, 2010**. Responses to all requests for more information will be included in any addenda and will be made available to all Bidders on **November 19, 2010**. Requests for additional information received after the **November 16, 2010** deadline will not receive a response. Responses will not be made orally.

Any additional information pertaining to this Bid or to the services being sought hereunder obtained in a manner other than as described in the preceding paragraph should be regarded as unofficial. UCNSB will not be bound in any way by information so obtained, or by a Bidder's reliance thereon.

**7. COST DISCUSSIONS:** The Bidder must not discuss cost information, except for clarification requested by the UCNSB Materials Manager, prior to the posting of bid results, with any employee, board member or authorized representative of the UCNSB. Violation of this restriction will result in **REJECTION** of the said Bid.

**8. ADDENDA:** All addenda issued during the time of bidding shall become part of the Bidding Documents, and receipt thereof must be acknowledged in writing with the bid (see Factor #5). The UCNSB accepts no responsibility for inaccurate bids due to missed information contained in any addendum. Each Bidder should ensure that they have received all addenda and amendments to the Bid before submitting their bids.

Please access the UCNSB web site at <http://www.ucnsb.net/purchasing/bid-information.aspx> for any addenda.

**9. LATE BIDS:** Bids will be publicly opened, read aloud and recorded, on the date and time indicated, at the location specified in the proposal request. It is the Bidders' responsibility to make certain that his/her proposal is in the hands of the Materials Manager prior to the opening time at the specified location. UCNSB accepts no responsibility for late or misdirected mail deliveries. Late bids will not be considered.

**10. CONSIDERATION OF BIDS:** The UCNSB reserves the right to award the contract to the Bidder(s) that the UCNSB deems to offer the best overall bid. The UCNSB is therefore not bound to accept a bid on the basis of lowest price. In addition, the UCNSB at its sole discretion, reserves the right to cancel this Bid, to reject any and all bids, to waive any and all informalities and/or irregularities, to re-advertise with either the identical or revised specifications, or not award a contract at all if it is deemed to be in the best interest of the UCNSB to do so. The UCNSB also reserves the right to make multiple or split awards if it is deemed to be in the Commission's best interest. The UCNSB shall not be responsible for any cost or expense incurred by the Bidder in preparing or submitting a bid or any cost prior to the execution of a contract agreement.

**11. OTHER CONSIDERATIONS:** Quantities involved, time of delivery, purpose for which required, competency in determining responsibility.

**12. QUALIFYING BIDS:** UCNSB reserves the right to require a Bidder to submit such evidence of qualifications as it may deem necessary and may consider any evidence available concerning the financial and other qualifications of the Bidder.

**13. DISCRIMINATION:** An entity or affiliate who has been placed on the discriminatory vendor list may not submit a proposal on a contract to provide goods or services to a public entity, may not submit a bid on a contract with a public entity for the construction or repair of a public building or public work, may not submit bids on leases of real property to a public entity, may not award or perform work as a contract supplier, subcontractor, or consultant under contract with any public entity, and may not transact business with any public entity.

**14. ADA:** The vendor awarded this proposal shall agree to comply with the Americans with Disabilities Act (ADA) of 1990.

**15. BID ACCEPTANCE PERIOD:** Any bid in response to this solicitation shall be valid for 90 days following opening of the bid, to allow for formal action by the Board. The Bidder agrees that during such time his bid will remain firm and irrevocable. At the end of the 90 days, the bid may be withdrawn at the written request of the bidder. If the bid is not withdrawn at that time, it remains in effect until a contract is awarded or the solicitation is canceled.

**16. EVALUATION PROCESS:** The Evaluation Committee will evaluate all bids received. The committee will examine each bid and determine how effectively it satisfies the needs of The Utilities Commission.

**17. BID AWARD:** Award is expected to be made to the Bidder who best meets the requirements of UCNSB considering responsibility, responsiveness and price. A written contract and/or purchase order detailing agreed terms will be rendered between the UCNSB and the agency achieving a successful proposal. Terms of the contract will include any and all items as specified in the bid, plus mutually agreed terms and conditions.

The content of this Bid and all provisions of the successful response deemed pertinent by UCNSB may be incorporated into a contract and become legally binding.

**18. CLARIFICATION:** The UCNSB reserves the right to request clarification of information submitted and to request additional information of one more Bidders, if needed.

**19. CONFLICT OF INTEREST:** The award hereunder is subject to the laws of the State of Florida. All Bidders must disclose, with their proposal, the name of any officer, director, or agent who is also an employee of the UCNSB. Further, all Bidders must disclose the name of any UCNSB employee who owns, directly or indirectly, an interest of five percent (5%) or more in the Bidders firm or any of its branches.

**20. LEGAL REQUIREMENTS:** Applicable provisions of all federal, state, county and local laws, and all ordinances, rules, and regulations shall govern development, submittal and evaluation of all bids received in response hereto and shall govern all claims and disputes which may arise between person(s) submitting a proposal response hereto and the UCNSB. Lack of knowledge by any Bidder shall not constitute a cognizable defense against the legal effect thereof. Bidders have certain rights under Chapter 120, Florida Statutes. Failure to follow proper procedures for a timely protest shall constitute a waiver of all further proceedings under Florida Statute 120.53(5).

**21. OTHER AGENCIES:** All respondents awarded contracts from this solicitation may, upon mutual agreement, permit any municipality or other government agency to participate in the contract under the same prices, terms and conditions. If the period of time is not defined within this solicitation, the prices, terms and conditions shall be firm for 120 days from date of award. It is understood that at no time will any city or municipality or other agency be obligated for placing an order for any city municipality or agency, nor will any city municipality or agency be obligated for any bills incurred by any other city or municipality or agency. Further it is understood that each agency shall issue their own purchase order to the awarded respondent(s).

**22. SUBSTITUTIONS:** Bidders are cautioned not to deviate from the bid specifications unless they also submit a detailed alternative.

**23. NON-WARRANTY OF SPECIFICATIONS:** Due care and diligence have been exercised in the preparation of this Bid and all information contained herein is believed to be to be substantially correct. However, the responsibility for determining the full extent of the exposures shall rest solely with the provider. Neither the Commission nor its representatives shall be responsible for any errors or omission in this Bid nor for the failure on the part of the bidder(s) to determine the full extent of exposures.

**24.** Failure of the contractor to deliver within the time specified, or within a reasonable time as interpreted by the Purchasing Authority or failure to make replacements of rejected articles as directed, shall permit the Purchasing Authority to purchase on the open market articles of comparable grade to take the place of those rejected or not delivered. On all such purchases, the contractor shall reimburse the **Utilities Commission**, within a reasonable time specified by the Purchasing Authority, for any expenses incurred in excess of the defaulted price. Payments due the contractor by the **Utilities Commission** may be withheld until reimbursement is received.

**25. INSURANCE** The Contractor shall, at its sole expense, maintain in effect at all times during the performance of the services insurance coverage with limits not less than those set forth below and with insurers and under forms of policies satisfactory to Commission.

<u>Coverage</u>	<u>Minimum Amounts and Limits</u>
(a) Worker's Compensation	Statutory requirements at location of work
Employer's Liability	\$ 100,000 Each occurrence \$ 300,000 Disease, aggregate \$ 100,000 Disease, each employee
(b) General Liability	\$1,000,000 General Aggregate \$1,000,000 Products – Comp Ops Agg \$ 500,000 Each Occurrence \$ 50,000 Fire Damage \$ 5,000 Medical Expense
(c) Automobile Liability	\$1,000,000 Combined Single Limit (owned, hired and non-owned)
Option of Split Limits:	
(1.) Bodily Injury	\$ 500,000 Per Person \$1,000,000 Per Accident
(2.) Property Damage	\$ 500,000

Coverage shall apply to the indemnity agreement and shall include the **UTILITIES COMMISSION** their officers and employees, each as additional insured's but only as regards to their liability arising out of Contractor's performance of the work or out of operations performed by others on behalf of Contractor under this Contract. The insurance as afforded to such additional insured's shall state that it is primary insurance and shall provide for a severability of interest or cross-liability clause. Prior to commencing performance of any work or site mobilization, Contractor shall furnish Commission with Certificates of Insurance (identifying on the face thereof the Project name and Contract number) as evidence of the above required insurance and such Certificates shall provide for thirty (30) days written notice to Commission prior to cancellation thereof.

Commission is not maintaining any insurance on behalf of Contractor covering loss or damage to the work or to any other property of Contractor unless otherwise specifically set forth herein.

None of the requirements contained herein as to types, limits and approval of insurance coverage to be maintained by Contractor are intended to and shall not in any manner limit or qualify the liabilities and obligations assumed by Contractor under this contract.

Contractor shall deliver the original Certificate of Insurance and one copy to the agent of the Commission.

Notices, in original and one copy, of cancellation, termination and alternation of such policies shall also be provided to the agent of the Commission.

## 2.01

### QUESTIONNAIRE ITB #03-10

Additional space may be required. Please answer questions in the order presented. All questions must be answered or contractor may be disqualified.

1. Has your company ever been denied insurance or had insurance canceled?
2. Is your company bondable? Has your company ever been denied bond? If yes, explain.
3. Can your insurance company produce a certificate of insurance stating your limits and naming UCNSB as an Additional Insured?
4. Since January 1, 2001, has your company been a defendant in any lawsuits?
5. Is your company a subsidiary or otherwise legally affiliated with any other company?
6. Is your company rated by Dunn & Bradstreet or any other rating agency? If yes, what is the name of the agency and rating?
7. Is your company in any stage of bankruptcy, including initial filing?
8. Can you supply us with three (3) business references similar to UCNSB? If yes, attach a list including contact and phone number.
9. Has your company been disbarred by the Federal Government or any State Government?

## 2.02

### EVALUATION FACTORS

Bids shall include all of the information solicited in this ITB, and any additional information that the Bidder deems pertinent to the understanding and evaluating of the bid. **Bids shall be organized and sections tabbed in the following order.** The Bidder should not withhold any information from the written response in anticipation of presenting the information orally or in a demonstration, since oral presentations or demonstrations may not be solicited. All bids shall include, at a minimum, the following information. Failure to supply all of the information requested may result in the bid being excluded from consideration.

Factor #1      **Experience:**

Provide a profile showing company history, business structure, and list of principals. A minimum of five (5) years in business is required.

Factor #2      **References:**

Submit a detailed list of clients receiving similar services within the last two years. Please include a brief description of the scope of work performed and the name, phone number and email address of the contact person.

Factor #3      **Pricing:**

Submitted Proposal Bid Form Page 34-35

Factor #4      **Public Entity Crimes, Non-collusion Affidavit, Drug Free Workplace & Vendor Information Form**

All Bidders shall properly complete attachments A,B,C,D and E here

Factor #5      **Addenda Acknowledgement**

Please submit all addenda (if any) related to this bid here.

Factor #6      **Questionnaire**

The Questionnaire responses requested in Section 2.01 should be submitted here.

Factor #8      **Detailed Specifications  
In this section include:**

Transformer product information and literature  
Transformer drawings  
Transformer test reports

**2.03**

**ITB SCHEDULE**

Distribution of the Invitation to Bid:	November 8, 2010
Deadline for final questions by 2:00PM:	November 16, 2010
Addendum published by 5:00PM:	November 19, 2010
ITB return deadline by 2:30 pm: Location: UCNSB – Finance Office 200 Canal St. New Smyrna Beach, FL Finance Department	December 1, 2010
ITB opening Location: UCNSB – DeBerry Room 200 Canal St. New Smyrna Beach, FL Time: 2:30 pm	December 1, 2010

SWORN STATEMENT UNDER SECTION 287.133(3) (1)
FLORIDA STATUTES, ON PUBLIC ENTITY CRIMES

THIS FORM MUST BE SIGNED IN THE PRESENCE OF A NOTARY PUBLIC OR OTHER OFFICER AUTHORIZED TO ADMINISTER OATHS.

- 1. This sworn statement is submitted Bid, Bid or Contract for
2. This sworn statement is submitted by
3. My name is
4. I understand that a "public entity crime" as defined in Paragraph 287.133 (1) (g), Florida Statutes, means a violation of any state of federal law be a person with respect to and directly related to the transaction of business with any public entity or with an agency or political subdivision of any other state or with the United States, including, but not limited to, any bid or contract for goods or services to be provided to any public entity or an agency or political subdivision of any other state, or of the United States and involving antitrust, fraud, theft, bribery, collusion, racketeering, conspiracy, or material misrepresentation.
5. I understand that "convicted" or "conviction" as defined in Paragraph 287.133 (91) (b), Florida Statutes, means a finding of guilt or a conviction of a public entity crime, with or without adjudication of guilt, in any federal or state trial court or recording, relating to charges brought by federal or state trial court or recording, relating to charges brought by federal or state trial court or recording, relating to charged brought by indictment or information after July 1, 1989, as a result of just verdict, non-jury trial, or entity of a plea of guilty or nolo contendere.
6. I understand the "affiliate" as defined in Paragraph 287.133(1)(a), Florida Statutes, means: (1) A Predecessor or Successor of a person convicted of public crime: or (2) An entity under the control of any natural person who is active in the management of the entity and who has been convicted of a public entity crime. The term "affiliate" includes those officers, directors, executives, partners, shareholder, employees, members, and agents who are active in the management of an affiliate. The ownership by one person of shares constituting a controlling interest in another person, or a pooling of equipment or income among persons when not for fair market value under an arm's length agreement, shall be a prima facie case that one person controls another person. A person who knowingly enters into a joint venture with a person who has been convicted of public crime in Florida during the preceding 36 months shall be considered an affiliate.
7. I understand that a "person" as defined in Paragraph 287.133(1) (e), Florida Statutes, means any natural person or entity organized under the laws of any state or of the United States with the legal power to enter into a binding contract and which bids or applies to bid on contracts for the provisions of goods or services let by a public entity, or which otherwise transacts or applies to transact business with a public entity. The term "person" includes those officers, directors, executives, partners, shareholders, employees, members and agents who are active in management of an entity.
8. Based on information and belief, that statement which I have marked below is true in relation to the entity submitting this sworn statement. [Please indicate which statement applies]

**Public Entity Crimes Statement**

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\_\_\_\_ Neither the entity submitting this sworn statement, or one more of the officers, directors, executives, partners, shareholders, employees, members or agents who are active in the management of the entity, nor any affiliate or the entity, has been charged with and convicted of public entity subsequent to July 1, 1989, AND [Please indicate which additional statement applies.]

\_\_\_\_ There has been a proceeding concerning the conviction before a hearing officer of the State of Florida, Division of Administrative Hearings. The final order entered by the hearing officer did not place the person or affiliate on the convicted vendor list. [Please attach a copy of the final order.]

\_\_\_\_ The person or affiliate was placed on the convicted vendor list. There has been a subsequent proceeding before a hearing officer of the State of Florida, Division of Administrative Hearings. The final order entered by the hearing officer determined that it was in the public interest to remove the person or affiliate from the convicted vendor list. [Please attach a copy of the final order.]

\_\_\_\_ The person or affiliate has not been placed on the convicted vendor list. [Please describe any action taken by or pending with the Department of General Services.]

Date: \_\_\_\_\_  
Signature

STATE OF: \_\_\_\_\_

COUNTY OF: \_\_\_\_\_

PERSONALLY APPEARED BEFORE ME, the undersigned authority, \_\_\_\_\_  
[name of individual signing] who after first sworn by me affixed his/her signature in the space provided above on this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_\_.

My commission expires: \_\_\_\_\_  
Notary Public

\_\_\_\_\_  
Print, Type, or Stamp of Notary Public

Personally known to me, or  
Produced Identification:

\_\_\_\_\_  
Type of I.D.

2.05

Attachment B

NON-COLLUSION AFFIDAVIT OF PRIME BIDDER

State of \_\_\_\_\_

County of \_\_\_\_\_

\_\_\_\_\_, being first duly sworn, deposes and says that:

He/she is \_\_\_\_\_ of \_\_\_\_\_, Bidder that has submitted the attached Bid;

He/she is fully informed respecting the preparation and contents of the attached Bid and of all pertinent circumstances respecting such Bid;

Neither the said Bidder nor any of its officers, partners, owners, agent representatives, employees, or parties in interest, including this affiant, has in any way colluded, conspired, connived or agreed, directly or indirectly, sought by agreement or collusion or communication or conference with any other Bidder, firm or person, to fix the price or prices in the attached Bid or of any other Bidder, or to fix any overhead, profit or cost element of the Bid price or the Bid price of any other Bidder, or to secure through any collusion, conspiracy, connivance or unlawful agreement any advantage against the UCNSB.

The price or prices quoted in the attached Bid are fair and proper and are not tainted by any collusion, conspiracy, connivance or unlawful agreement on the part of the Bidder or any of its agents, representatives, owners, employees, or parties in interest, including this affiant.

\_\_\_\_\_  
Signed

\_\_\_\_\_  
Title

Subscribed and sworn to before me this \_\_\_\_ day of \_\_\_\_\_, 20\_\_.

\_\_\_\_\_

\_\_\_\_\_  
Title

My Commission Expires: \_\_\_\_\_

**CERTIFICATION OF DRUG-FREE WORKPLACE**

**IDENTICAL PROPOSALS** - Preference shall be given to businesses with drug-free workplace programs. Whenever two or more bids which are equal with respect to price, quality, and service are received by the State or by any political subdivision for the procurement of commodities or contractual services, a bid received from a business that certifies that it has implemented a drug-free workplace program shall be given preference in the award process. Established procedures for processing tie bids will be followed if none of the tied vendors have a drug-free workplace program. In order to have a drug-free workplace program, a business shall:

1. Publish a statement notifying employees that the unlawful manufacture, distribution, dispensing, possession, or use of a controlled substance is prohibited in the workplace and specifying the actions that will be taken against employees for violations of such prohibition.
2. Inform employees about the dangers of drug abuse in the workplace, the business's policy of maintaining a drug-free workplace, any available drug counseling, rehabilitation, and employee assistance programs, and the penalties that may be imposed upon employees for drug abuse violations.
3. Give each employee engaged in providing the commodities or contractual services that are under bid a copy of the statement specified in subsection (1).
4. In the statement specified in subsection (1), notify the employees that, as a condition of working on the commodities or contractual services that are under bid, the employee will abide by the terms of the statement and will notify the employer of any conviction of, or plea of guilty or nolo contendere to, any violation of chapter 893 or of any controlled substance law of the United States or any state, for a violation occurring in the workplace no later than five (5) days after such conviction.
5. Impose a sanction on, or require the satisfactory participation in a drug abuse assistance or rehabilitation program if such is available in the employee's community, by any employee who is so convicted.
6. Make a good faith effort to continue to maintain a drug-free workplace through implementation of this section.

As the person authorized to sign the statement, I certify that this firm complies fully with the above requirements.

---

VENDOR SIGNATURE

**UTILITIES COMMISSION  
City of New Smyrna Beach, Florida**

**VENDOR INFORMATION**

386 424 3045 Voice  
386 424 2732 Fax

Vendor is:

- (        ) Corporation
- (        ) Partnership
- (        ) Sole Proprietorship
- (        ) Other \_\_\_\_\_(Explain)

Federal Employer Identification  
Number or Social Security Number: \_\_\_\_\_

Do you collect Florida State Sales Tax? (        ) Yes (        ) No

Firm Name: \_\_\_\_\_

Mailing Address: \_\_\_\_\_  
\_\_\_\_\_

Telephone No. \_\_\_\_\_ Fax No. \_\_\_\_\_

Email Address: \_\_\_\_\_ Web Address: \_\_\_\_\_

Service or Commodity Supplied: \_\_\_\_\_

If vendor is quoting, as a manufacturer's representative and the purchase order should be addressed to the manufacturer in care of the vendor, so indicate.

If remittance address is different from the mailing address so indicate below.

Firm Name: \_\_\_\_\_

Mailing Address: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Submitted by: \_\_\_\_\_

Name & Title Printed: \_\_\_\_\_

**REQUEST FOR TAXPAYER IDENTIFICATION NUMBER****Step 1. Provide your complete name and Taxpayer Identification Number** (Check ONE box only)

- U.S. Resident – Individual/Sole Proprietor** (Form 1099 reportable)

Name \_\_\_\_\_

If you are a sole proprietor, name the owner of the business: \_\_\_\_\_

Social Security Employer

Number \_\_\_\_\_ -- \_\_\_\_\_ -- \_\_\_\_\_ Identification Number \_\_\_\_\_ -- \_\_\_\_\_ -- \_\_\_\_\_

- U.S. Partnership, Limited Liability Company (“LLC”), or Trust** (Form 1099 reportable)

Name (as shown on your tax return) \_\_\_\_\_ Employer \_\_\_\_\_

Identification Number \_\_\_\_\_ -- \_\_\_\_\_ -- \_\_\_\_\_

- U.S. Corporation** (exempt from Form 1099 reporting except for medical or legal services)

(If an LLC electing corporate status for U.S. tax purposes, please attach a copy of your U.S. tax election on IRS Form 8832, *Entity Classification Election*)

Name (as shown on your tax return) \_\_\_\_\_ Employer \_\_\_\_\_

Identification Number \_\_\_\_\_ -- \_\_\_\_\_ -- \_\_\_\_\_

- U.S. Tax-Exempt Organization or Federal, State, or Local Government Agency** (exempt from Form 1099 reporting)

Name (as shown on your tax return) \_\_\_\_\_ Employer \_\_\_\_\_

Identification Number \_\_\_\_\_ -- \_\_\_\_\_ -- \_\_\_\_\_

**Step 2. Certification/Signature** (Complete the following) Under penalties of perjury my signature certifies that:

1. The number shown on this form is my correct taxpayer identification number (or I am waiting for a number to be issued to me).
2. I am not subject to backup withholding because: (a) I am exempt from backup withholding, or (b) I have not been notified by the Internal Revenue Service (IRS) that I am subject to backup withholding as a result of a failure to report all interest or dividends, or (c) the IRS has notified me that I am no longer subject to backup withholding.
3. I am a U.S. person\* (including a U.S. resident alien).

**Certification Instructions** - You must cross out item 2 above if you have been notified by the IRS that you are currently subject to backup withholding because you have failed to report all interest and dividends on your tax return. For real estate transactions, number 2 above does not apply. For mortgage interest paid, acquisition or abandonment of secured property, cancellation of debt, contributions to an individual retirement arrangement (IRA), and generally, payments other than interest and dividends, you are not required to sign the Certification, but you must provide your correct TIN.

Signature: \_\_\_\_\_ Phone: ( \_\_\_\_\_ ) \_\_\_\_\_

Print Name: \_\_\_\_\_ Title: \_\_\_\_\_ Date: \_\_\_\_\_

Address: \_\_\_\_\_ City: \_\_\_\_\_ State: \_\_\_\_\_ ZIP: \_\_\_\_\_

**Instructions for U.S. Tax Persons**

As a business, federal income tax law requires us to report certain payments we make to you if you are not exempted from this reporting responsibility. In order for us to properly meet the federal tax law requirements, we need certain information from you. Please complete the information requested above and return this form to the address shown above. If you do not provide us with your correct taxpayer identification number, you may be subject to a \$50 penalty imposed by the Internal Revenue Service. In addition, you may be subject to 28% backup withholding on reportable payments we make to you.

If you have any questions, please call us at \_\_\_\_\_ (provide requester's telephone number).

**\*Are you a U.S. person?** The IRS defines a U.S. person as:

- a U.S. citizen;
- an entity (company, corporation, trust, partnership, estate, etc.) created or organized in, or under the laws of, the United States; a state; or the District of Columbia;
- a U.S. resident alien (someone who has a “green card” or has passed the IRS “substantial-presence test.”

For an explanation of the substantial-presence test, please see IRS Pub. 515 or 519, available at [www.irs.gov](http://www.irs.gov).)

If your answer is NO, please do not complete this form and contact us at (insert requester's phone number here) \_\_\_\_\_.

If your answer is YES, please complete the form.

### 3.0

## Special Conditions

### BACKGROUND

The Utilities Commission, City of New Smyrna Beach operates an electric utility servicing approximately 23,000 customers. The Commission is soliciting qualified vendors to provide transformers to meet its needs.

### TOTAL OWNING COST CALCULATION

To calculate total cost, the present worth factor must first be found.

$$\frac{(1+i)^n - 1}{i(1+i)^n} \quad \begin{array}{l} i = \text{interest rate} \\ \text{where } n = \text{transformer life in years} \end{array}$$

Then:

$$CW = (PW)(E)(8.760) \quad \text{where } E = \text{Energy cost in } \$ \text{ per KWh}$$

Then:

$$WW = (PW)(E)(8.760)(L^2) \quad \text{where } L = \text{Percent of transformer load.}$$

Lastly:

With PW, CW, WW calculated and PP, BCL, and BWL supplied by the vendor.

$$TC = PP + CW \times BCL + WW \times BWL$$

### CALCULATION OF LOSS PENALTY

$$P = (ACL - BCL) CW + (AWL - BWL) WW$$

For the determination of the award of business, the Utilities Commission will consider all bids within two and one half percent (2.5%) of the lowest TOC to be economically equivalent and will consider other factors such as lead times and purchase price in making the award. For the purposes of cost comparison the evaluated cost, total owning cost, will be used and not the unit price quoted for each transformer.

All bidders shall supply NO LOAD AND TOTAL losses on the form provided in the bid documents. All losses shall be quoted in watts at 85 degrees C. (65 degrees C. rise + 20 degrees C. ambient).

Quoted losses shall be the guaranteed average of all transformers in a specific order of a given size and type. However, no transformer shall exceed the tolerances specified in ANSI C57.12.1987, Table 18.

**DELIVERY**

All transformers shall be palletized, side loaded, and delivered on an open type flat bed trailer. Pallet length (front to back) may be no shorter than 39” and no longer than 42”. Twenty four (24) hours notice is required prior to delivery of the transformers by calling (386)424-3047 between the hours of 7:30 a.m. and 3:00 p.m. weekdays.

All transformers will be delivered FOB New Smyrna Beach, Florida. All shipping and handling costs shall be included in the unit cost quoted.

**DRAWING SUBMITTALS**

Bidders shall submit transformer construction drawings for APPROVAL showing all measurements and depicting all gauges, electrical connections, equipment parts, and all notes and nameplates for all transformers being quoted for the bid.

**WARRANTY**

The Vendor/Manufacturer shall warrant its transformers to meet guaranteed performance, and to operate continuously, without failure, for a period of 24 months from the date the transformer is placed into service by the Utilities Commission, City of New Smyrna Beach.

During the warranty period, should a mechanical or electrical failure occur in the transformer, the selling entity (Vendor/Manufacturer) shall be responsible for coordinating and/or providing parts and service to repair or replace failed transformer or affected components at no additional cost to the Utilities Commission. Such service shall commence within 5 working days of vendor receipt of written notice from the Commission of transformer failure.

The Vendor/Manufacturer will warrant and service all components of the transformer regardless of manufacturing origin.

4.0

**All Specifications**

**MANUFACTURERS  
APPROVED FOR  
SINGLE AND THREE PHASE  
PADMOUNT TRANSFORMERS**

ABB

CENTRAL MOLONEY

COOPER INDUSTRIES

ERMCO

G.E.

HOWARD INDUSTRIES

KUHLMAN

PAUWELS

**UTILITIES COMMISSION – NEW SMYRNA BEACH  
 TECHNICAL SPECIFICATIONS FOR  
 THREE PHASE - LOOP FEED - DEAD FRONT  
 PAD MOUNTED TRANSFORMER  
 DUAL VOLTAGE**

**Specification  
 #4**

**1.0 SCOPE**

- 1.1 These specifications cover the electrical characteristics and mechanical features of dead front, loop feed, three-phase, 60Hz, mineral-oil immersed, self-cooled, pad mounted, compartmental-type distribution transformers rated 2500 kVA and smaller, high voltage 22860 / 13200 – 13200 /7620 wye connected with low voltages of 120 / 208 wye.
- 1.2 Unless otherwise specified herein, all transformers shall be in accordance with the latest revision of ANSI Standard C57.12.26.

**2.0 RATINGS**

- 2.1 Transformer connected Wye-Wye and all three phase units must have a four or five legged core, or must be of triplex design (3 single phase units in one tank).
- 2.2 Case temperature rise over ambient shall not exceed 45 degrees Centigrade.

No individual unit shall exceed the noise level for that size unit listed in Column A below.

The average sound level shall not exceed that shown in Column B.

	A	B
	MAXIMUM LEVEL	AVERAGE LEVEL
	INDIVIDUAL UNITS	
kVA	(dBA)	(dBA)
100 and below	51	48
101 through 300	55	52
500	56	52
750	58	54

All units of each design of each size shall be tested for audible sound level. The test shall be conducted in accordance with ANSI/IEEE C57.12.90.

2.3 BASIC IMPULSE INSULATION LEVELS shall be in accordance with the following:

Primary:

Transformer High Voltage (kV):	22860/13200 - 13200/7620 Grd Y
Insulation Class (kV)	18 kV
Insulation BIL (kV)	125 kV minimum

Secondary:

Rated Low Voltage (volts)	120/208
Insulation Class (kV)	1.2 kV
Insulation BIL (kV)	30 kV

3.0 INTERNAL LEAD

3.1 Internal secondary leads shall be identified with appropriate markings permanently embossed in the lead that corresponds with lead markings on the nameplate.

4.0 INSTRUCTION AND NAMEPLATE MARKINGS

4.1 The nameplate shall be mounted on a bracket in such a manner that there are no sharp edges exposed.

4.2 The metal (aluminum or copper) used in each winding shall be shown on the nameplate.

4.3 The nameplate shall include the true date of manufacture: Month and year. Example: 01 03 or 01/03. No codes will be acceptable.

4.4 No markings, signs, or decals are to be placed on these transformers unless required by this specification.

4.5 There is to be no decal, label or sign on the transformer marked with information regarding the PCB level in the dielectric fluid. This requirement includes the transformer nameplate. Preferred wording for the nameplate is "MINERAL OIL FILLED".

5.0 TEST AND INSPECTION

5.1 The tank, cover and sealing systems shall be capable of withstanding the following test conditions which simulate the internal, high current arcing default.

- (a) An internal fault at rated transformer voltage, of 8000 amperes RMS symmetrical, across a one inch arc gap. The gap to be located one inch above the core clamps and between one high voltage terminal and ground. It may be initially bridged by a fine copper wire to initiate the arc. Back-up protection is to clear this fault in approximately two cycles.

**Page (2) Specification #4**

- (b) Criteria for passing this test:
- 1) No components can be propelled or dropped from the tank.
  - 2) No appreciable oil or flame expulsion during test.
  - 3) No oil shall continue to emerge from inside the tank after the test.

6.0 CONSTRUCTION

6.1 Bushing and Terminals:

- (a) The transformer shall be furnished with removable stud bushing wells, Central Moloney #3-7019-1192 or approved equal, for use with replaceable load break type bushing inserts. Bail tabs are required on the bushing well clamp.

Specific written approval is required for use of wells other than the one specified. (Bushing inserts and elbows will be furnished by the Utilities Commission).

- (b) The bushing wells shall be oriented so that the elbows can be operated with a hot stick.
- (c) Primary bushing wells shall have a dust cover in place for shipment.
- (d) The internal risers to externally clamped bushing wells shall allow replacement of the bushing wells from the exterior tank.
- (e) Four copper one inch threaded secondary terminals shall be located on the side wall of the transformer in the low voltage section. The center line of the secondary bushing shall be thirty inches above the base.

6.2 Maximum transformer weights

Transformers supplied under this specification shall conform to the following maximum weights.

TRANSFORMER SIZE (KVA)	MAXIMUM WEIGHT (LBS)
75	2400
112	2800
150	3300
225	4000
300	4400
500	5200
750	7400

### 6.3 Accessory Equipment

- (a) Dual voltage transformers shall have an externally operated dual voltage switch set at factory on the higher primary voltage tap position. The voltage setting shall be legibly and permanently marked. Decals or markings painted on the tank are not acceptable. The transformer nameplate shall also indicate the dual voltage connection. The switch handle shall be non-corrosive, with a fastening device to prevent inadvertent operation. Switches that must not be operated while energized shall have a warning sign to this effect near the switch.
- (b) The transformer shall be equipped with a pressure relief valve with characteristics listed below:
  - 1) The body of the valve shall be brass, bronze, or stainless steel.
  - 2) Venting on rising pressure shall occur between 8 and 12 psi.
  - 3) Resealing on falling pressure shall occur between 5 and 8 psi.
  - 4) The valve shall have provisions for manual venting with the use of a live line hook stick.
  - 5) The valve shall be threaded into a metal boss welded to the tank above the 140 degree top oil level.
- (c) Provide a protective bay-o-net oil immersed fuse link externally replaceable with a hot stick without opening the transformer that isolates the transformer from the system in case of an internal fault. Transformer shall be fused for higher primary voltage with lower primary voltage fuses provided with each unit.
- (d) Two 304 stainless steel hold down cleats, slotted for 1/2 inch bolts, shall be provided for the front sill.

### 6.4 Tank and compartment.

- (a) The transformer tank, clearances and bushing arrangements must be tamper-resistant. There shall be no exposed screws, bolts or other fastening devices which are externally removable. There shall be no openings through which foreign objects such as sticks, rods or wires might be inserted to contact live parts. If a handhole is used, a false cover shall be provided.
- (b) All welds on the exterior of the tank are to be full welds. Spot, tack or skip welds are not acceptable for attaching hinges, brackets, grounding bosses, etc. Tank designs which minimize pockets and crevices where corrosion may occur are preferred.
- (c) Two ground pads, each consisting of 1/2 in. - 13 threaded boss, 7/16 in. deep, shall be provided. The pads shall be plugged before the transformer is painted.

**Page (4) Specification #4**

- (d) A compartment shall be affixed to one side of the transformer, with primary bushings on the left side of the compartment and secondary bushings on the right. Barriers fixed between primary and secondary sections and on the right side of the compartment are to be fifteen in. and sixteen in. minimum. They are to be mounted with the top of the barrier six in. above the centerline of the secondary bushings. The minimum depth between the transformer tank and the compartment door shall be eighteen in.
- (e) Doors and top-hinged lids shall be designed to prevent inadvertent dislodgement from the hinge. Preference will be given to transformer designs with compartment access that is initiated by first opening a hinged-top lid, and where such action would then permit the release of other captive front doors. The top lid shall be operable by one person, and shall be suitably supported by locking braces in the open position. The lid and doors must be designed so as not to interfere with replacement of the bay-o-net fuse being provided.
- (f) Construction of the unit shall be such that it can be lifted, skidded or slid into place on the mounting pad without disturbing the entrance cables. A removable sill is required.
- (g) The entire unit shall be primed and painted in such a way as to prevent corrosion of the interior or exterior of the unit even under coastal atmospheric conditions. The color shall be Munsell 7GY 3.29/1.5.
- (h) Suitable means for padlocking the compartment door shall be provided. Aluminum handles and latches are not acceptable. A 1/2 inch hex captive bolt with NC Class 2 threads separate from the locking device may also be provided. The bolt shall be threaded into a blind hole.
- (i) An oil drain plug shall be provided near the center of the tank. This plug should be located in an area clear of grounding pads, bushings, etc., to allow clear access for removal.
- (j) A one-half in. oil sight gauge, Tedco No. M36E or approved equivalent, shall be provided in sectionalizing type three phase units. It shall be located one-half in. to one in. below the surface of the 25 degree Centigrade oil level. Units not requiring the oil level indicator shall have an oil level plug.
- (k) Tanks without cooling fins are preferred. If required, cooling fins shall be designed so that no sharp points or edges exist on any part of the fins or where they attach to the tank. External edges shall be rounded and smoothed. Cooling fins shall be arranged to minimize their protrusion from the tank.
- (l) **Transformer tank will be constructed of 304L stainless steel, including doors, hinges, sill and other related hardware.**
- (m) All transformers rated 500 kVA or below shall have a bolted cover to allow for inspection and maintenance. Above 500 kVA shall have a welded cover and handhole to allow for maintenance.

**Page (5) Specification #4**

## 7.0 PACKAGING AND SHIPPING

- 7.1 No manufacturer's installation instructions are to be packaged or shipped with the transformers. Copies of installation instructions may be delivered to the Manager of Electric Operations of the Utilities Commission.
- 7.2 Each transformer shall be banded or cleated to a two-way entry, disposable pallet of the manufacturer's own design. This pallet must be of such dimensions as to provide 2 inch clearance of the transformer at its widest outside measurements on all four sides. This pallet must provide a minimum of 3-1/2 inches of fork under-clearance. The transformer shall be attached to the pallet in such a way as to prevent shifting of the unit on the pallet surface during transit, while allowing the unit to be handled by sling or by fork truck without removing the banding or cleating.

## 8.0 MANUFACTURER'S PROPOSAL

- 8.1 The following items shall be included in the Inquiry reply to the Utilities Commission:

- (a) The guaranteed average values of no load and load (winding) losses. No load losses shall be 20 degrees centigrade temperature. The value for load losses shall be corrected to 85 degrees centigrade temperature.

The losses for each primary voltage connection shall be supplied for all transformers with dual primary voltage ratings. (Guaranteed average losses are defined as: "The average of the losses of several transformers in a shipment. The losses of an individual unit in a shipment shall not exceed the tolerances specified in Table 13, ANSI Standard C57.12.00 - 10% no load, 6% total"). Units exceeding these limits shall not be shipped to the Utilities Commission. If any such unit is found to have been shipped, the Utilities Commission will request full credit based upon the purchase price of the unit. The unit will be returned if it can be found, if not, the full credit is still required.

## 9.0 TRANSFORMER EVALUATION AND LOSS PENALTY

### 9.1 Methodology:

The total cost of a transformer (T.C.) being evaluated will be based on the purchase price plus the present value of expected future cost due to core (no load) and winding (loaded) losses. The unit with the lowest total cost is the most economical unit purchase.

$$TC = PP + CW \times BCL + WW \times BWL$$

where:

PP = Purchase Price  
CW = Dollar per watt of core loss  
BCL = Bid Core Loss  
WW = Dollar per watt of winding loss  
BWL = Bid Winding Loss  
P = Penalty  
ACL = Actual Core Loss  
AWL = Actual Winding Loss

$i = 6\%$   
 $n = 20$  years  
 $E = \underline{.06434\$ \text{ per kwh}}$   
 $L = 60\%$

## 9.2 Calculation of Total Cost:

To calculate total cost, the present worth factor must first be found:

$$PW = \frac{(1+i)^n - 1}{i(1+i)^n} \quad \begin{array}{l} i = \text{interest rate} \\ \text{where } n = \text{transformer life in years} \end{array}$$

then:

$CW = (PV) (E) (8.760)$  where E = Energy cost in \$ per kWh.

then:

$WW = (PV) (E) (8.760) (L^2)$  where L = Percent of Transformer Load.

lastly:

With PV, CW, WW calculated and PP, BCL, and BWL supplied by the vendor.

$$TC = PP + CW \times BCL + WW \times BWL$$

## 9.3 Calculation of Loss Penalty:

$$P = (ACL - BCL) CW + (AWL - BWL) WW$$

## 10.0 AUDITS - PENALTIES

10.1 The Utilities Commission may conduct random audits of transformer losses. These audits consist of actual loss measurements, which are compared to the vendor's guaranteed losses.

## 11.0 INVOICE AND LOSS DATA

11.1 The format of actual loss data is to be transmitted with each invoice. **INVOICES SHALL BE HELD UNTIL ACTUAL LOSSES ARE RECEIVED.**

**UTILITIES COMMISSION – NEW SMYRNA BEACH  
 TECHNICAL SPECIFICATIONS FOR  
 THREE PHASE -LOOP FEED - DEAD FRONT  
 PAD MOUNTED TRANSFORMER**

**Specification  
 #5**

**1.0 SCOPE**

- 1.1 These specifications cover the electrical characteristics and mechanical features of dead front, loop feed, three-phase, 60Hz, mineral-oil immersed, self-cooled, pad mounted, compartmental-type distribution transformers rated 2500 kVA and smaller, high voltage 22860 / 13200 wye connected with low voltage of 277 / 480 wye.
- 1.2 Unless otherwise specified herein, all transformers shall be in accordance with the latest revision of ANSI Standard C57.12.26.

**2.0 RATINGS**

- 2.1 Transformer connected Wye-Wye and all three phase units must have a four or five legged core, or must be of triplex design (3 single phase units in one tank).
- 2.2 Case temperature rise over ambient shall not exceed 45 degrees Centigrade.

No individual unit shall exceed the noise level for that size unit listed in Column A below.

The average sound level shall not exceed that shown in Column B.

	A	B
	MAXIMUM LEVEL INDIVIDUAL UNITS	AVERAGE LEVEL
kVA	(dBA)	(dBA)
100 and below	51	48
101 through 300	55	52
500	56	52
750	58	54

All units of each design of each size shall be tested for audible sound level. The test shall be conducted in accordance with ANSI/IEEE C57.12.90.

2.3 BASIC IMPULSE INSULATION LEVELS shall be in accordance with the following:

Primary:

Transformer High Voltage (kV)	22860/13200
Insulation Class (kV)	18 kV
Insulation BIL (kV)	125 kV minimum

Secondary:

Rated Low Voltage (volts)	277/480
Insulation Class (kV)	1.2 kV
Insulation BIL (kV)	30 kV

3.0 INTERNAL LEAD

3.1 Internal secondary leads shall be identified with appropriate markings permanently embossed in the lead that corresponds with lead markings on the nameplate.

4.0 INSTRUCTION AND NAMEPLATE MARKINGS

4.1 The nameplate shall be mounted on a bracket in such a manner that there are no sharp edges exposed.

4.2 The metal (aluminum or copper) used in each winding shall be shown on the nameplate.

4.3 The nameplate shall include the true date of manufacture: Month and year. Example: 01 03 or 01/03. No codes will be acceptable.

4.4 No markings, signs, or decals are to be placed on these transformers unless required by this specification.

4.5 There is to be no decal, label or sign on the transformer marked with information regarding the PCB level in the dielectric fluid. This requirement includes the transformer nameplate. Preferred wording for the nameplate is "MINERAL OIL FILLED".

5.0 TEST AND INSPECTION

5.1 The tank, cover and sealing systems shall be capable of withstanding the following test conditions which simulate the internal, high current arcing default.

- (a) An internal fault at rated transformer voltage, of 8000 amperes RMS symmetrical, across a one inch arc gap. The gap to be located one inch above the core clamps and between one high voltage terminal and ground. It may be initially bridged by a fine copper wire to initiate the arc. Back-up protection is to clear this fault in approximately two cycles.

**Page (2) Specification #5**

(b) Criteria for passing this test:

- 1) No components can be propelled or dropped from the tank.
- 2) No appreciable oil or flame expulsion during test.
- 3) No oil shall continue to emerge from inside the tank after the test.

## 6.0 CONSTRUCTION

### 6.1 Bushing and Terminals:

- (a) The transformer shall be furnished with removable stud bushing wells, Central Moloney #3-7019-1192 or approved equal, for use with replaceable load break type bushing inserts. Bail tabs are required on the bushing well clamp.

Specific written approval is required for use of wells other than the one specified. (Bushing inserts and elbows will be furnished by the Utilities Commission).

- (b) The bushing wells shall be oriented so that the elbows can be operated with a hot stick.
- (c) Primary bushing wells shall have a dust cover in place for shipment.
- (d) The internal risers to externally clamped bushing wells shall allow replacement of the bushing wells from the exterior of the tank.
- (e) Four copper one inch threaded secondary terminals shall be located on the side wall of the transformer in the low voltage section. The center line of the secondary bushing shall be thirty inches above the base.

### 6.2 Maximum transformer weights

Transformers supplied under this specification shall conform to the following maximum weights.

TRANSFORMER SIZE (KVA)	MAXIMUM WEIGHT (LBS)
75	2400
112	2800
150	3300
225	4000
300	4400
500	5200
750	7400

**Page (3) Specification #5**

### 6.3 Accessory Equipment

- (a) The transformer shall be equipped with a pressure relief valve with characteristics listed below:
  - 1) The body of the valve shall be brass, bronze, or stainless steel.
  - 2) Venting on rising pressure shall occur between 8 and 12 psi.
  - 3) Resealing on falling pressure shall occur between 5 and 8 psi.
  - 4) The valve shall have provisions for manual venting with the use of a live line hook stick.
  - 5) The valve shall be threaded into a metal boss welded to the tank above the 140 degree top oil level.
- (b) Provide a protective bay-o-net oil immersed fuse link externally replaceable with a hot stick without opening the transformer that isolates the transformer from the system in case of an internal fault.
- (c) Two 304 stainless steel hold down cleats, slotted for 1/2 inch bolts, shall be provided for the front sill.

(a) Transformers provided under this specification shall be provided with standards taps two and one half percent (2.5%) above and below normal position.

### 6.4 Tank and compartment.

- (a) The transformer tank, clearances and bushing arrangements must be tamper resistant. There shall be no exposed screws, bolts or other fastening devices which are externally removable. There shall be no openings through which foreign objects such as sticks, rods or wires might be inserted to contact live parts. If a hand hole is used, a false cover shall be provided.
- (b) All welds on the exterior of the tank are to be full welds. Spot, tack or skip welds are not acceptable for attaching hinges, brackets, grounding bosses, etc. Tank designs which minimize pockets and crevices where corrosion may occur are preferred.
- (c) Two ground pads, each consisting of 1/2 in. - 13 threaded boss, 7/16 in. deep, shall be provided. The pads shall be plugged before the transformer is painted.
- (d) A compartment shall be affixed to one side of the transformer, with primary bushings on the left side of the compartment and secondary bushings on the right. Barriers fixed between primary and secondary sections and on the right side of the compartment are to be fifteen and sixteen in. minimum. They are to be mounted with the top of the barrier six in. above the centerline of the secondary bushings. The minimum depth between the transformer tank and the compartment door shall be eighteen in.

**Page (4) Specification #5**

- (e) Doors and top-hinged lids shall be designed to prevent inadvertent dislodgement from the hinge. Preference will be given to transformer designs with compartment access that is initiated by first opening a hinged-top lid, and where such action would then permit the release of other captive front doors. The top lid shall be operable by one person, and shall be suitably supported by locking braces in the open position. When an externally replaceable fuse is used, the lid and doors must be designed so as not to interfere with replacement of this fuse.
- (f) Construction of the unit shall be such that it can be lifted, skidded or slid into place on the mounting pad without disturbing the entrance cables. A removable sill is required.
- (g) The entire unit shall be primed and painted in such a way as to prevent corrosion of the interior or exterior of the unit even under coastal atmospheric conditions. The color shall be Munsell 7GY 3.29/1.5.
- (h) Suitable means for padlocking the compartment door shall be provided. Aluminum handles and latches are not acceptable. A 1/2 in. hex captive bolt with NC Class 2 threads separate from the locking device may also be provided. The bolt shall be threaded into a blind hole.
- (i) An oil drain plug shall be provided near the center of the tank. This plug should be located in an area clear of grounding pads, bushings, etc., to allow clear access for removal.
- (j) A one-half in. oil sight gauge, Tedco No. M36E or approved equivalent, shall be provided in sectionalizing type three phase units. It shall be located one-half in. to one in. below the surface of the 25 degree Centigrade oil level. Units not requiring the oil level indicator shall have an oil level plug.
- (k) Tanks without cooling fins are preferred. If required, cooling fins shall be designed so that no sharp points or edges exist on any part of the fins or where they attach to the tank. External edges shall be rounded and smoothed. Cooling fins shall be arranged to minimize their protrusion from the tank.
- (l) **Transformer tank will be constructed of 304L stainless steel, including doors, hinges, sill and other related hardware.**
- (m) All transformers rated 500 kVA or below shall have a bolted cover to allow for inspection and maintenance. Above 500 kVA shall have a welded cover and handhole to allow for maintenance.

## 7.0 PACKAGING AND SHIPPING

- 7.1 No manufacturer's installation instructions are to be packaged or shipped with the transformers. Copies of installation instructions may be delivered to the Manager of Electric Operations of the Utilities Commission.

7.2 Each transformer shall be banded or cleated to a two-way entry, disposable pallet of the manufacturer's own design. This pallet must be of such dimensions as to provide 2 inch clearance of the transformer at its widest outside measurements on all four sides. This pallet must provide a minimum of 3-1/2 inches of fork under clearance. The transformer shall be attached to the pallet in such a way as to prevent shifting of the unit on the pallet surface during transit, while allowing the unit to be handled by sling or by fork truck without removing the banding cleating.

8.0 MANUFACTURER'S PROPOSAL

8.1 The following items shall be included in the Inquiry reply to the Utilities Commission:

- (a) The guaranteed average values of no load and load (winding) losses. No load losses shall be 20 degrees centigrade temperature. The value for load losses shall be corrected to 85 degrees centigrade temperature.

(Guaranteed average losses are defined as: "The average of the losses of several transformers in a shipment. The losses of an individual unit in a shipment shall not exceed the tolerances specified in Table 13, ANSI Standard C57.12.00 - 10% no load, 6% total"). Units exceeding these limits shall not be shipped to the Utilities Commission. If any such unit is found to have been shipped, the Utilities Commission will request full credit based upon the purchase price of the unit. The unit will be returned if it can be found, if not, the full credit is still required.

9.0 TRANSFORMER EVALUATION AND LOSS PENALTY

9.1 Methodology:

The total cost of a transformer (T.C.) being evaluated will be based on the purchase price plus the present value of expected future cost due to core (no load) and winding (loaded) losses. The unit with the lowest total cost is the most economical unit purchase.

$$TC = PP + CW \times BCL + WW \times BWL$$

where:

PP = Purchase Price

CW = Dollar per watt of core loss

years

BCL = Bid Core Loss

WW = Dollar per watt of winding loss

$$E = \frac{.06434 \text{ \$ per kwh}}{L} = 60\%$$

BWL = Bid Winding Loss

P = Penalty

ACL = Actual Core Loss

AWL = Actual Winding Loss

**Page (6) Specification #5**

## 9.2 Calculation of Total Cost:

To calculate total cost, the present worth factor must first be found:

$$PW = \frac{(1+i)^n - 1}{i(1+i)^n} \quad \begin{array}{l} i = \text{interest rate} \\ \text{where } n = \text{transformer life in years} \end{array}$$

then:

CW = (PV) (E) (8.760) where E = Energy cost in \$ per kWh.

then:

WW = (PV) (E) (8.760) (L<sup>2</sup>) where L = Percent of Transformer Load.

lastly:

With PV, CW, WW calculated and PP, BCL, and BWL supplied by the vendor.

$$TC = PP + CW \times BCL + WW \times BWL$$

## 9.3 Calculation of Loss Penalty:

$$P = (ACL - BCL) CW + (AWL - BWL) WW$$

## 10.0 AUDITS - PENALTIES

10.1 The Utilities Commission may conduct random audits of transformer losses. These audits consist of actual loss measurements, which are compared to the vendor's guaranteed losses.

## 11.0 INVOICE AND LOSS DATA

11.1 The format of actual loss data is to be transmitted with each invoice. **INVOICES SHALL BE HELD UNTIL ACTUAL LOSSES ARE RECEIVED.**

## BID NO 03-11 TRANSFORMERS

### BID FORM

ITEM	QTY	DESCRIPTION	MANUFACTURER MODEL NUMBER	PRICE	LEAD- TIME	LOSSES	
						CORE	WINDING
<b>1</b>	<b>3</b>	Transformer, Padmount 3PH 112kVA SS Dual Volt High Voltage 22860/13200- 13200/7620 Low Voltage 120/208 Spec 4					
<b>2</b>	<b>4</b>	Transformer, Padmount 3PH 150kVA SS Dual Volt High Voltage 22860/13200- 13200/7620 Low Voltage 120/208 Spec 4					
<b>3</b>	<b>3</b>	Transformer, Padmount 3PH 225kVA SS Dual Volt High Voltage 22860/13200- 13200/7620 Low Voltage 120/208 Spec 4					
<b>4</b>	<b>2</b>	Transformer, Padmount 3PH 300kVA SS Dual Volt High Voltage 22860/13200- 13200/7620 Low Voltage 120/208 Spec 4					
<b>5</b>	<b>2</b>	Transformer, Padmount 3 PH 1500kVA SS High Voltage 22860/13200 Low Voltage 277/580 Spec 5					

**BID NO 03-11 TRANSFORMERS  
BID FORM**

**The Utilities Commission reserves the right to waive informalities in any bid, to reject any and all bids in whole or in part, with or without cause, and/or accept the bids or portions thereof that in its judgment will be for the best interest of the Utilities Commission. These prices are valid for orders placed within Ninety (90) days from the date of bid opening unless specified otherwise.**

**Submitted**

**by:** \_\_\_\_\_

**(Please Print)**

**Company**

**Name:** \_\_\_\_\_

**Date:** \_\_\_\_\_

**Title:** \_\_\_\_\_

**Phone No.** \_\_\_\_\_

**Fax No:** \_\_\_\_\_

**E-Mail:** \_\_\_\_\_

**Signature:** \_\_\_\_\_