Solicitation

For Participation in

Substation Transformer Supply for JEA

for

Jacksonville, FL

Solicitation Number 062-17

Optional Pre-Response Meeting on June 27, 2017, at 9:30 AM

JEA Procurement Bid Office, 21 West Church Street, Jacksonville, FL 32202.

Dial In: 1-888-714-6484

Participation Code: 817050

Proposals are due on July 11, 2017 by 12:00 PM

Direct delivery or mail to JEA Bid Office, Customer Center 1st Floor, Room 002

21 W. Church Street, Jacksonville, FL 32202

JEA will publicly open all Proposals received from qualified Proposers on July 11, 2017, at

2:00 PM in the JEA Bid Office, Customer Center 1st Floor, Room 002, 21 W. Church Street, Jacksonville, FL

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SOLICITATION

1. INTENT TO NEGOTIATE

1.1. INVITATION

1.1.1. SCOPE OF WORK (ITN)

The purpose of this Invitation to Negotiate (the "ITN") is to evaluate and select a vendor that can provide 50 MVA substation transformers at the best value to JEA (the "Work" or "Services"). "Best Value" means the highest overall value to JEA with regards to pricing, quality, design, and workmanship.

The scope of services the company will provide includes, however, is not limited to:

- Equipment (transformer) engineering
- Materials procurement
- Manufacturing and assembly
- Factory acceptance testing
- Delivery
- Installation support at site
- Training

A more detailed description of the Work is provided in the Technical Specifications included as Appendix A to this ITN.

1.1.2. BACKGROUND

JEA owns, operates and manages the electric system established by the City of Jacksonville, Florida in 1895. JEA is also co-owner, with Florida Power and Light ("FPL") of the St Johns River Power Park ("SJRPP"). In June 1997, JEA also assumed operation of the water and sewer system previously managed by the City. JEA is Florida's largest municipally owned utility and the seventh largest municipal in the United States.

1.1.3. INVITATION TO NEGOTIATE

You are invited to submit a Response to the Invitation to Negotiate noted below:

JEA ITN Title: Substation transformer supply for JEA

JEA ITN Number: 109-17

A complete copy of this ITN and any applicable documents can be downloaded from jea.com.

Response Due Time: 12:00P.M. - **ALL LATE RESPONSES FOR WHATEVER REASON WILL BE RETURNED UNOPENED.**

Response Due Date: July 11, 2017

All Responses must reference the JEA ITN Title and Number noted above. All Responses must be made on the appropriate forms as specified within this ITN, and placed in an envelope marked to identify this ITN and delivered or mailed to:

JEA Procurement, Bid Office, 21 West Church Street, Customer Center 1st Floor, Room 002, Jacksonville, FL 32202

The Respondent shall be solely responsible for delivery of its Response to the JEA Bid Office. Please note, JEA employs a third party courier service to deliver its mail from the local U.S. Post Office (USPS) which could cause a delay of Response delivery if mailed through the USPS. Therefore, JEA recommends hand delivery to the JEA Bid Office. Reliance upon the USPS, the courier service employed by JEA, or public carriers is at the Respondent's risk. Responses are due by the time and on the date listed above.

ALL LATE RESPONSES FOR WHATEVER REASON WILL BE RETURNED UNOPENED.

1.1.4. QUESTIONS (ITN)

All Questions must be submitted in writing to the **JEA Buyer** listed below at least five (5) **business** days prior to the opening date. Questions received within five (5) **business** days prior to the opening date will not be answered.

For Procurement Questions:
Buyer: Rodney Lovgren
E-mail: lovgrd@jea.com

Technical Questions:
Contact: Michael Sasan
E-mail: sasamo@jea.com

1.1.5. MANDATORY PRE-RESPONSE MEETING IN PERSON OR BY TELECONFERENCE

There will be a mandatory Pre-Response meeting. All interested parties must attend or call into the Pre-Response meeting. Each Respondent will be required to sign in at the beginning of the meeting. A Respondent shall only sign in representing one company, unless otherwise specified by JEA. A roll call will begin for the teleconference attendees immediately at the beginning of the meeting. Respondents not attending the Pre-Response meeting shall have their Responses rejected, and returned unopened.

Respondents shall be on time to the Pre-Response meeting and Respondents must be present at the starting time of the meeting. Respondents not arriving or answering the roll call on time for the meeting will have their Responses rejected, and returned unopened.

PLEASE BE AWARE DUE TO JEA SECURITY PROCEDURES IT MAY TAKE UP TO FIFTEEN (15) MINUTES TO OBTAIN ACCESS TO A JEA FACILITY. PLEASE PLAN ACCORDINGLY SO AS TO ARRIVE TO THE PRE-RESPONSE MEETING ON TIME.

PRE-RESPONSE MEETING TIME: 9:30 A.M.

PRE-RESPONSE MEETING DATE: June 27, 2017

Dail In: 1-888-714-6484
Participation Code: 817050

PRE-RESPONSE MEETING LOCATION: JEA CUSTOMER CENTER, BID OFFICE, 1ST FLOOR, ROOM 002, 21 WEST CHURCH STREET, JACKSONVILLE, FL 32202.

1.1.6. OPENING OF RESPONSES (JEA-16007)

All Responses received shall be publicly announced and recorded at 2:00 PM on July 11, 2017, in the JEA Bid Office, 21 West Church Street, Customer Center, 1st Floor, Room 002, Jacksonville, FL 32202. At the opening of the Responses, a JEA representative will publicly open each Response that was received prior to the due date and time, except for those Responses that have been properly withdrawn. JEA has the right to waive any irregularities or informalities in the Responses.

1.2. SPECIAL INSTRUCTIONS

1.2.1. MINIMUM QUALIFICATIONS (JEA - 16058)

Respondent shall meet the following Minimum Qualifications to be considered eligible to submit a Response to this ITN. A Respondent not meeting all of the following criteria will have their Response rejected:

- The Respondent shall be on the JEA Approved Manufacturer's List on the Response Due Date. The following are the current approved manufacturers.

LISTING OF JEA APPROVED TRANSFORMER MANUFACTRERS

ABB Inc.
HICO America
SGB SMIT GROUP
SPX (Waukesha)
Delta Star

Please note, any Respondent whose contract with JEA was terminated for default within the last two (2) years shall have their Response rejected.

1.2.2. NUMBER OF CONTRACTS TO BE AWARDED

JEA intends to Award one (1) Contract for the Work. JEA reserves the right to Award more than one Contract based on certain groupings of the Work items, or JEA may exclude certain Work items, if JEA determines that it is in its best interest to do so.

1.2.3. REQUIRED FORMS TO BE SUBMITTED WITH RESPONSE

The following forms must be completed and submitted to JEA at the timeframes stated below. The Respondent can obtain the required forms, other than the Minimum Qualification Form, Response Form and Response Workbook, by downloading them from JEA.com.

A. The following forms are required to be submitted with the Response:

- Response Form- This can be found in Appendix B of this ITN
- Response Workbook - This can be found in Appendix B of this ITN
- List of JSEB Certified Firms (if any)
- List of Subcontractors/Shop Fabricators (if applicable)

If the above listed forms are not submitted with the Response by the Response Due Time and Date, JEA shall reject the Response.

B. JEA also requests the following documents to be submitted prior to Contract execution. A Response will not be rejected if these forms are not submitted at the Response Due Date and Time. However, failure to submit these documents prior to Contract execution could result in Response rejection.

- Conflict of Interest Certificate Form - This form can be found at JEA.com
- Insurance certificate
- W-9
- Evidence of active registration with the State of Florida Division of Corporations (www.sunbiz.org)
- Any technical submittals as requires by the Technical Specifications

1.3. EVALUATION METHODOLOGY

1.3.1. BASIS OF AWARD – HIGHEST EVALUATED

JEA will Award this Contract to the responsive and responsible Respondent whose Response meets or exceeds the Minimum Qualifications set forth in this Solicitation, and the Respondents Response price represents the lowest cost to JEA, receives the highest number of points for the listed selection criteria.

JEA will use the Respondent's Unit Prices Price stated on the Response Workbook when making price comparisons for Award purposes.

1.3.2. EVALUATION AND NEGOTIATION PROCESS

JEA intends to select up to four (4) Respondents (the "Short-list") with which to commence negotiations. A selection committee (hereinafter referred to as the "Selection Committee"), will be appointed by the Chief Procurement Officer (the "CPO"), or his designee, to review and evaluate each Response submitted. The CPO's office will distribute a copy of each Response to each member of the Selection Committee, and the members of the Selection Committee will separately and independently evaluate and rank the Responses using the "Selection Criteria" as stated below in this ITN. JEA will use this ranking to develop the Short-list of companies in which to proceed with contract negotiations.

Prior to developing the Short-list, JEA may request that the Respondents provide additional information to clarify their Response. JEA will NOT allow Respondents to submit additional reference projects or change said reference projects that were initially submitted for the purposes of meeting the Minimum Qualifications stated in this ITN. However, JEA may request clarification of submitted documentation so that JEA may make an accurate assessment in developing the Short-list. JEA must be satisfied that the successful Respondent has the necessary technical expertise, experience, and resource capabilities to satisfactorily perform the Work described in this ITN.

JEA reserves the right to Award a Contract based on the Selection Committee's initial evaluation of the Responses if JEA deems the Responses demonstrate adequate competition, compliance, and responsiveness to this ITN. If JEA determines the previously stated criteria have not been met, JEA will finalize the Short-list and proceed with contract negotiations.

Respondents are cautioned to present the best possible pricing offer in their initial Responses. Failing to do so may result in a Respondent not making the Short-list, and will not be allowed to proceed with contract negotiations. Additionally, the prices submitted with the initial Response cannot be increased during the ITN process.

Once a Short-list is developed, the CPO, or his designee, will appoint a negotiating team (the "Negotiating Team"). The Negotiation Team may be comprised of the same individuals as were members of the Selection Committee. JEA reserves the right to negotiate concurrently or separately with the Short-list Respondents. JEA reserves the right

to seek clarifications, to request Response revisions, and to request any additional information deemed necessary for proper evaluation of the Responses. JEA reserves the right to incorporate value added services or industry standard innovations recommended by a Respondent into the Contract's scope of work.

A Respondent that is included on the Short-list may be required, at the sole option of JEA, to make an oral presentation, provide additional written clarifications to its Response, or JEA may require site visits to Respondent's facilities. Oral presentations, hand-outs, and written clarifications will be attached to the Respondent's Response and will become a part of the Response as if originally submitted. The CPO or his designee will initiate and schedule a time and location for any presentations which may be required.

As a part of the negotiation process, JEA may contact the references provided by the Respondent for the purpose of independently verifying the information provided in the Response, and to assess the extent of success of the projects associated with those references. JEA also reserves the right to contact references not provided by Respondents. Respondents may be requested to provide additional references. The results of the reference checking may influence the final negotiation, ranking, and Award recommendation.

After written clarifications, oral presentations, site visits, and any other negotiations deemed by JEA to be in its best interest, the Short-list Respondents will be given a deadline to submit their best and final offer (the "Best and Final Offer" or "BAFO"). The negotiation process will stop upon submission of the BAFO. Respondents will not be allowed to make further adjustments to their BAFO or communicate further with JEA, except to respond to requests for clarification from the Negotiating Team.

The JEA Negotiating Team will adjust and calculate the final rankings of the Short-list based on the BAFO submissions. JEA does not anticipate reopening negotiations after receiving the BAFOs, but reserves the right to do so if it believes doing so will be in the best interests of JEA. In the event that JEA reopens negotiations, any final rankings will be revised accordingly.

Negotiations will not be open to the public, but will be recorded. All recordings of negotiations and any records, documents, and other materials presented at negotiation sessions are public records and can be released pursuant to a public records request after a notice of intended decision for this ITN is posted, or thirty (30) days after the opening of the Responses, whichever occurs earlier.

The Award recommendation of the Negotiating Team will be based upon the scoring of the BAFOs and the Selection Criteria described below in this ITN. The Respondent with the highest score will be submitted to the CPO for approval. Once approved, the CPO will then present an Award to the JEA Awards Committee for final approval.

In its sole discretion, JEA reserves the right to withdraw this ITN either before or after receiving Responses, to reject any and all Responses either in whole or in part, with or without cause, or to waive any ITN requirement informalities, minor irregularities, and deficiencies in any Response, and to determine such action is in the best interest of JEA. Issuance of this ITN in no way constitutes a commitment by JEA to make an Award or enter into a Contract.

All Responses submitted to JEA are subject to the JEA's terms and conditions contained in this ITN and JEA's Procurement Code. Any and all additional terms and conditions submitted by Respondents are rejected and shall have no force.

1.3.3. ALTERNATE PROVISIONS AND CONDITIONS

Responses that contain provisions that are contrary to requirements found on this ITN, including, but not limited to, the Contract terms and conditions contained in Section 2 of this ITN, and any requirements found in the Technical Specifications attached as Appendix A to this ITN, will be reviewed but may not be accepted by JEA. However, as this is an ITN, JEA reserves the right to negotiate the best terms and conditions if determined to be in the best interests of JEA, and negotiate different terms and related price adjustments if JEA determines that it provides the best value to JEA.

1.4. SELECTION CRITERIA

1.4.1. QUOTATION OF RATES

Maximum score for criterion is: 100 Points

Respondent shall provide a firm-fixed price quote for all Work in this ITN by completing the enclosed Response Form. The prices shall include all profit, taxes, benefits, travel, and all other overhead items.

The percent mark-up for materials, consumables, subcontractors, and rental equipment shall not be subject to any adjustment during the Term of the Contract. The percent mark-up for rental equipment shall be all inclusive including the cost of fuel.

Please note, the prices quoted by Respondent on the Response Form must be firm-fixed prices, not estimates.

1.4.2. TIE

In the event of a tie score, the tie shall be resolved in accordance with JEA's Procurement Code and Operational Procedures.

1.5. GENERAL INSTRUCTIONS

1.5.1. SUBMITTING THE RESPONSE

The Respondent shall submit one (1) original Response, three (3) duplicates (hardcopies) and one (1) CD or flash drive. For the submitted electronic copy, the Respondent shall provide a tracked changes version of any terms and conditions comments and an excel version of the quotation of rates workbook. Combed binders are preferred. If there is a discrepancy between the electronic and the hard copy, the hard copy will prevail. JEA will not accept Responses transmitted via email. **IF RESPONDENT IS INTERESTED IN RECEIVING A RESPONSE FORM IN A WORD FORMAT, PLEASE EMAIL LOVGRD@JEA.COM WITH THE REQUEST. REQUESTS MUST BE MADE NO LATER THAN FIVE (5) BUSINESS DAYS BEFORE RESPONSE OPENING.**

1.5.2. ADDENDA

JEA may issue Addenda prior to the opening of Responses to change or clarify the intent of this Invitation to Negotiate (ITN). The Respondent shall be responsible for ensuring it has received all Addenda prior to submitting its Response and shall acknowledge receipt of all Addenda by completing the Confirmation of Receipt of ITN Addenda. JEA will post Addenda when issued online at JEA.com. Companies must obtain Addenda from the JEA.com website. All Addenda will become part of the ITN and any resulting Contract Documents. It is the responsibility of each Respondent to ensure it has received and incorporated all Addenda into its Response. Failure to acknowledge receipt of Addenda may be grounds for rejection of a Response at JEA's sole discretion.

1.5.3. CONTRACT EXECUTION AND START OF WORK

Within thirty (30) days from the date of Award, JEA will present the successful Respondent with the Contract Documents. Unless expressly waived by JEA, the successful Respondent shall execute a Contract for the Work or Services within ten (10) days after receiving the Contract from JEA. If the Respondent fails to execute the Contract or associated documents as required, or if it fails to act on a JEA-issued Purchase Order (PO), JEA may cancel the Award with no further liability to the Respondent, retain the bid security or bond (if applicable), and Award to the next-ranked company.

Upon JEA's receipt of the executed Contract and certificate of insurance, JEA will issue a PO, in writing and signed by an authorized JEA representative as acceptance of the Proposal and authorization for the company to proceed with the Work, unless otherwise stated in the Contract or PO.

1.5.4. DEFINED TERMS

Words and terms defined in the Section entitled "Definitions" of this document are hereby incorporated by reference into the entire document.

1.5.5. EX PARTE COMMUNICATION

Ex Parte Communication is defined as any inappropriate communication concerning an ITN between a company submitting a Response and a JEA representative during the time in which the ITN is being advertised through the time of Award. Examples of inappropriate communications include: private communications concerning the details of the ITN in which a company becomes privy to information not available to the other Respondents. Social contact between companies and JEA Representatives should be kept to an absolute minimum during the ITN process.

Ex Parte Communication is strictly prohibited. Failure to adhere to this policy will disqualify the noncompliant company's Response. Any questions or clarifications concerning this ITN must be sent in writing via email to the JEA Buyer at least five (5) business days prior to the opening date. If determined by JEA, that a question should be answered or an issue clarified, JEA will issue an addendum to all Respondents.

1.5.6. CERTIFICATION AND REPRESENTATIONS OF THE COMPANY

By signing and submitting the Response Form, the Respondent certifies and represents as follows:

A. That the individual signing the Response Form is a duly authorized agent or officer of the Respondent. Responses submitted by a corporation must be executed in the corporate name by the President or Vice President. If an individual other than the President or Vice President signs the Response Form, satisfactory evidence of authority to sign must be submitted upon request by JEA. If the Response is submitted by a partnership, the Response Form must be signed by a partner whose title must be listed under the signature. If an individual other than a partner signs the Response Form, satisfactory evidence of authority to sign must be submitted upon request by JEA.

B. That every aspect of the Response and the detailed schedule for the execution of the Work, are based on its own knowledge and judgment of the conditions and hazards involved, and not upon any representation of JEA. JEA assumes no responsibility for any understanding or representation made by any of its representatives during or prior to execution of the Contract unless such understandings or representations are expressly stated in the Contract and the Contract expressly provides that JEA assumes the responsibility.

C. The corporation or partnership must be in active status at the Florida Division of Corporations (www.sunbiz.org) prior to any subsequent Award of Contract.

D. That the Respondent maintains in active status any and all licenses, permits, certifications, insurance, bonds and other credentials including, but not limited to, contractor's license and occupational licenses necessary to perform the Work. The Respondent also certifies that, upon the prospect of any change in the status of applicable licenses, permits, certifications, insurances, bonds or other credentials, the Respondent shall immediately notify JEA of status change.

E. That the Respondent has read, understands and will comply with the Section titled Ethics.

1.5.7. ETHICS

By submitting a Response, the Respondent certifies this Response is made without any previous understanding, agreement or connection with any other person, firm, or corporation submitting a Response for the same Work other than as a Subcontractor or supplier, and that this Response is made without outside control, collusion, fraud, or other illegal or unethical actions. The Respondent shall comply with all JEA and City of Jacksonville ordinances, policies and procedures regarding business ethics.

The Respondent shall submit only one Response in response to this Solicitation. If JEA has reasonable cause to believe the Respondent has submitted more than one Response for the same Work, other than as a Subcontractor or subsupplier, JEA shall disqualify the Bid and may pursue debarment actions.

The Respondent shall disclose the name(s) of any public officials who have any financial position, directly or indirectly, with this Response by completing and submitting the Conflict of Interest Certificate Form found at jea.com. If JEA has reason to believe that collusion exists among the Respondents, JEA shall reject any and all Responses from the suspected Respondent s and will proceed to debar Respondent from future JEA Awards in accordance with the JEA Procurement Code.

JEA is prohibited by its Charter from awarding contracts to JEA officers or employees, or in which a JEA officer or employee has a financial interest. JEA shall reject any and all Responses from JEA officers or employees, as well as, any and all Responses in which a JEA officer or employee has a financial interest.

In accordance with Florida Statutes Sec. 287.133, JEA shall reject Responses from any persons or affiliates convicted of a public entity crime as listed on the Convicted Vendor list maintained by the Florida Department of Management Services. JEA shall not make an Award to any officer, director, executive, partner, shareholder, employee, member, or agent active in management of the Respondent listed on the Convicted Vendor list for any transaction exceeding $35,000.00 for a period of thirty-six (36) months from the date of being placed on the Convicted Vendor list.

If the Respondent violates any requirement of this clause, the Response may be rejected and JEA may debar offending companies and persons.

1.5.8. JEA PUBLICATIONS

Applicable JEA publications are available at jea.com.

1.5.9. MATHEMATICAL ERRORS

In the event of a mathematical error in calculation of the prices entered on the Response, the Unit Prices will prevail. The corrected Response Price utilizing the Unit Prices will be used to determine if the Company is Awarded the Work or the Services. Subsequently, the Unit Prices will be used throughout the term of the Contract.

1.5.10. MODIFICATION OR WITHDRAWAL OF RESPONSES

The Respondent may modify or withdraw its Response at any time prior to the Response Due Date and Time by giving written notice to JEA's Chief Procurement Officer. JEA will not accept modifications submitted by telephone, telegraph, email, or facsimile, or those submitted after Response Due Date and Time. The Respondent shall not modify or withdraw its Response from time submitted and for a period of 90 days following the opening of Responses.

1.5.11. PROHIBITION AGAINST CONTINGENT FEES

The Respondent warrants that it has not employed or retained any company or person, other than a bona fide employee working for the Respondent, or an independent sales representative under contract to the Respondent, to solicit or secure a contract with JEA, and that it has not paid or agreed to pay any person, company, corporation, individual or Respondent, other than a bona fide employee working solely for the Respondent, or an independent sale representative under contract to the Respondent, any fee, commission, percentage, gift, or any other consideration, contingent upon or resulting from the Award or making of the Contract. For a breach or violation of these provisions occurs, JEA shall have the right to terminate the Contract without liability, and at its discretion, to deduct from the Contract Price, or otherwise recover, the full amount of such fee, commission, percentage, gift or consideration.

1.5.12. PROTEST OF ITN AND AWARD PROCESS

Respondents shall file any protests regarding this ITN in writing, in accordance with the JEA Purchasing Code, as amended. Copies of the JEA Purchasing Code are available online at www.jea.com.

1.5.13. RESERVATION OF RIGHTS TO JEA

This ITN provides potential Companies with information to enable the submission of written offers. This ITN is not a contractual offer or commitment by JEA to purchase products or services.

Responses shall be good for a period of ninety (90) days following the opening of the Responses.

JEA reserves the right to reject any or all Responses, or any part thereof, and/or to waive informalities if such action is in its best interest. JEA may reject any Responses that it deems incomplete, obscure or irregular including, but not limited to, Responses that omit a price on any one or more items for which prices are required, Responses that omit Unit Prices if Unit Prices are required, Responses for which JEA determines that the Response is unbalanced, Responses that offer equal items when the option to do so has not been stated, Responses that fail to include a Bid Bond, where one is required, and Responses from Companies who have previously failed to satisfactorily complete JEA contracts of any nature or who have been scored by JEA as "Unacceptable" and as a result, are temporarily barred from bidding additional work.

JEA reserves the right to cancel, postpone, modify, reissue and amend this ITN at its discretion.

JEA reserves the right to cancel or change the date and time announced for opening of Responses at any time prior to the time announced for the opening of Responses. JEA may Award the Contract in whole or in part. In such cases whenever JEA exercises any of these reservations, JEA will make a commercially reasonable effort to notify, in

writing, all parties to whom ITNs were issued. JEA may award multiple or split Contracts if it is deemed to be in JEA's best interest.

1.5.14. SUNSHINE LAW

General

Article I, Section 24, Florida Constitution, guarantees every person access to all public records and Chapter 119, Florida Statutes, provides a broad definition of public records. JEA is a body politic and corporate and subject to these laws and related statutes ("Florida's Public Records Laws"). All responses to this ITN are public record and available for public inspection unless specifically exempt by law.

Redacted Submissions

If a Respondent believe that any portion of the documents, data or records submitted in response to this ITN are exempt from Florida's Public Records Law, Respondent must (1) clearly segregate and mark the specific sections of the document, data or records as "Confidential," (2) cite the specific Florida Statute or other legal authority for the asserted exemption, and (3) provide JEA with a separate redacted copy of its response (the "Redacted Copy"). The cover of the Redacted Copy shall contain JEA's title and number for this ITN and Respondent's name, and shall be clearly labeled "Redacted Copy." Respondent should only redact those portions of records that Respondent claims are specifically exempt from the Florida Public Records Laws. If Respondent fails to submit a redacted copy of information it claims is confidential, JEA is authorized to produce all documents, data and other records submitted to JEA in answer to a public records request for such information.

In the event of a request for public records to which documents that are marked as confidential are responsive, JEA will provide the Redacted Copy to the requestor. If a requestor asserts a right to any redacted information, JEA will notify Respondent that such an assertion has been made. It is Respondent's responsibility to respond to the requestor to assert that the information in question is exempt from disclosure under applicable law. If JEA becomes subject to a demand for discovery or disclosure of Respondent's redacted information under legal process. JEA shall give Respondent prompt notice of the demand prior to releasing the information (unless otherwise prohibited by applicable law.) Respondent shall be responsible for defending its determination that the redacted portions of its response are not subject to disclosure.

By submitting a response to this ITN, Respondent agrees to protect, defend, and indemnify JEA from and against all claims, demands, actions, suits, damages, losses, settlements, costs and expenses (including but not limited to reasonable attorney fees and costs) arising from it relating to Respondent's determination that the redacted portions of its response to this Solicitation are not subject to disclosure.

IF THE RESPONDENT HAS QUESTIONS REGARDING THE APPLICATION OF CHAPTER 119, FLORIDA STATUTES, TO THE RESPONDENT'S DUTY TO PROVIDE PUBLIC RECORDS RELATING TO THIS SOLICITATION, CONTACT THE JEA CUSTODIAN OF PUBLIC RECORDS AT: Public Records Request Coordinator, JEA, 21 West Church Street, T-8, Jacksonville, FL 32202, Ph: 904-665-8606, publicrecords@jea.com

1.5.15. SUBCONTRACTORS

The Respondent shall list the names of the major Subcontractors that it intends to use for this Work, unless the Work will be self-performed by the Respondent. The Subcontractors shall be listed on the Subcontractors Form which is available at jea.com. Failure to submit this form with the Response shall result in rejection of company's Response. The Respondent shall not use Subcontractors other than those shown on the Subcontractor Form unless it shows good cause and obtains the JEA Representative's prior written consent.

If the Respondent plans to use Subcontractors to perform over fifty percent (50%) of the Work, the Respondent shall obtain JEA's approval at least five (5) days prior to the Response Due Date. Failure to obtain JEA approval shall result in rejection of the company's Response.

1.6. JACKSONVILLE SMALL AND EMERGING BUSINESS (JSEB) PROGRAM REQUIREMENTS

1.6.1. OPTIONAL USE OF JACKSONVILLE SMALL AND EMERGING BUSINESS (JSEB) PROGRAM

It is at the Respondent's option as to whether it chooses to subcontract to a JSEB firm. JEA encourages the use of JSEB qualified firms; however, the Respondent is not required to utilize JSEB firms to be Awarded this Contract.

JSEB firms that qualify for this Contract are only those shown on the current City of Jacksonville JSEB directory appearing at www.COJ.net. Certification of JSEB firms must come from the City of Jacksonville. No other agency or organization is recognized for purposes of this Contract.

In no case shall the Respondent make changes to the JSEB firms listed in its Response, revise the JSEB Scope of Work or amount of Work as stated in its Response without prior written notice to the JEA Contract Administrator, and without subsequent receipt of written approval for the JEA Contract Administrator.

Any subcontractors of Respondent shall procure and maintain the insurance required of Respondent hereunder during the life of the subcontracts. Subcontractors' insurance may either be by separate coverage or by endorsement under insurance provided by Respondent. Note: Any JSEB firms identified by Respondent for this Solicitation are considered "Subcontractors" under the direct supervision of the Prime or General Contractor (herein referred to as Respondent in this Solicitation). Respondents should show good faith efforts in providing assistance to JSEB firms in the securing of Subcontractors' insurance requirements stated in this section. Respondent shall submit subcontractors' Certificates of Insurance to JEA prior to allowing subcontractors to perform Work on JEA's job sites.

All question and correspondence concerning the JSEB program should be addressed to the following contact: G. Nadine Carswell, JSEB Manager, JEA, (904) 665-6257, carsgs@jea.com.

2. CONTRACT TERMS AND CONDITIONS

2.1. CONTRACT TERMS AND CONDITIONS

2.2. DEFINITIONS

2.2.1. DEFINITIONS

Words and terms defined in this section shall have the same meaning throughout all parts of this Solicitation and Contract Documents. Where intended to convey the meaning consistent with that set forth in its definition, a defined word or term is marked by initial capitalization. The "Technical Specifications" portion of this Solicitation may define additional words and terms where necessary to clarify the Work. Unless otherwise stated in this Solicitation

and/or Contract Documents, definitions set forth in the "Technical Specifications" shall apply only within the "Technical Specifications."

2.2.2. ACCEPTANCE

JEA's written notice by the Contract Administrator to the Company that all Work as specified in the Contract, or a portion of the Work as specified in a Task or Work Order, has been completed to JEA's satisfaction. Approval or recognition of the Company meeting a Milestone or interim step does not constitute Acceptance of that portion of Work. Acceptance does not in any way limit JEA's rights under the Contract or applicable laws, rules and regulations.

2.2.3. ADDENDUM/ADDENDA

A written change or changes to the Solicitation which is issued by JEA Procurement Services and is incorporated into the Solicitation as a modification, revision and/or further clarification of the intent of the Solicitation.

2.2.4. ANNIVERSARY DATE

The date which is twelve (12) months after the effective date of the Contract, and each date which is twelve (12) months after an Anniversary Date that occurs while the Contract is in effect.

2.2.5. AWARD

The written approval of the JEA Awards Committee that the procurement process for the purchase of the Work was in accordance with the JEA Procurement Code and Florida Statutes. Once an Award is approved, JEA will either issue a Purchase Order or execute a Contract with the successful bidder or proposer.

2.2.6. CONTRACT

An agreement between JEA and the Respondent, signed by both parties, which incorporates all the Contract Documents. The Contract shall not be altered without an Amendment to the Contract and executed by JEA and the Respondent, or a JEA issued Change Order.

2.2.7. CONTRACT ADMINISTRATOR

The individual assigned by JEA to have authority to administer the Contract, including the authority to negotiate all elements of the Contract with the Company, authorize Change Orders within the maximum amount awarded, terminate the Contract, seek remedies for nonperformance including termination, and otherwise act on behalf of JEA in all matters regarding the Contract. The Contract Administrator may authorize JEA Representative in writing to make minor changes to the Work with the intent of preventing Work disruption.

2.2.8. CONTRACT AMENDMENT (JEA - 16026)

A written document signed by JEA and the Company issued after the execution of the original Contract which authorizes an addition, deletion or revision of the Scope of Work, or an adjustment in the Contract Price or the Term of the Contract. Contract Amendments do not authorize expenditures greater than the monies encumbered by JEA, which is stated on the associated Purchase Order(s). An executed Contract Amendment resolves all issues related to the Contract Price and the Term of the Contract.

2.2.9. CONTRACT PRICE

The total amount payable to the Company during the initial Term of the Contract. However, this amount is not a guaranteed amount. Also referred to as the "Maximum Indebtedness" of JEA.

2.2.10. CONTRACT TIME

The number of calendar days or the period of time from when the written Purchase Order is issued to the Company, to the date Company has agreed to complete the Work, as set forth in the Contract Documents.

2.2.11. DEFECT

Work that fails to reach Acceptance, or Work that fails meet the requirements of any required test, inspection or approval, and any Work that meets the requirements of any test or approval, but nevertheless does not meet the requirements of the Contract Documents.

2.2.12. HOLIDAYS

The following days: New Year's Day, Martin Luther King Jr. Day, Presidents' Day, Memorial Day, Independence Day, Labor Day, Veterans Day, Thanksgiving Day, Day after Thanksgiving, Christmas Eve Day, and Christmas Day.

2.2.13. INVITATION TO NEGOTIATE

The document (which may be electronic) issued by the JEA Procurement Department to solicit Responses from Companies that include, but not limited to, the Minimum Qualifications Form, samples of contract documents and addenda. Also referred to as "Solicitation".

2.2.14. INVOICE

A document seeking payment to the Company from JEA for all or a portion of the Work, in accordance with the Contract Documents, and including at a minimum the following items: the Company's name and address, a description of the product(s) or service(s) rendered, a valid JEA PO number, the amount payable, the Unit Price, the payee name and address, any associated JSEB forms and any other supporting documentation required by the Contract Documents.

2.2.15. JEA

JEA on its own behalf, and when the Work involves St. Johns River Power Park (SJRPP), as agent for Florida Power and Light Company (FPL). JEA and FPL are co-owners of SJRPP.

2.2.16. JEA REPRESENTATIVES

The Contract Administrator, Contract Inspector, Contract Administrator's Representative, JEA Engineer, Field Engineer, Project Manager, and other persons designated by the Contract Administrator as JEA Representatives acting in a capacity related to the Work or Contract under the authority of the Contract Administrator.

2.2.17. PERFORMANCE - ACCEPTABLE PERFORMANCE/PERFORMER

The Respondent averages more than 2.80 and less than 4.0 across all performance scorecard evaluation metrics, and does not receive a score of less than 2.0 on any metric.

2.2.18. PERFORMANCE - TOP PERFORMANCE/PERFORMER

The Respondent averages 4.0 or more across all scorecard evaluation metrics and does not receive a score of less than 4.0 on any one metric.

2.2.19. PERFORMANCE - UNACCEPTABLE PERFORMANCE/PERFORMER

The Company averages less than 2.80 across all scorecard evaluation metrics, or scores a 1.0 on any one metric regardless of average, or receives a score of 2.0 on the same metric on two sequential performance evaluations.

2.2.20. PURCHASE ORDER (PO)

A commercial document issued by JEA, authorizing work, indicating types, quantities, and agreed prices for products or services the Company will provide to JEA. Sending a PO to a Company constitutes a legal offer to buy products or services. The words "Purchase Order" are clearly marked across the top, a PO number is used for reference and invoicing purposes, includes an authorized JEA signature, and states the dollar amount of the lawfully appropriated funds.

2.2.21. RESPONSE

The document describing the Company's offer submitted in response to this ITN.

2.2.22. RESPONDENT

The respondent to this Solicitation.

2.2.23. SUBCONTRACTOR

The legal person, firm, corporation or any other entity or business relationship that provides a portion of the work, or provides supplies and materials, to the Company which has an executed Contract with JEA. JEA is not in privity of contract with the Subcontractor.

2.2.24. SOLICITATION

The documents (which may be electronic) issued by JEA's Procurement Department to solicit Bids from Bidders that includes, but is not limited to, the Bid Documents, Bid Workbook, samples of documents, contractual terms and conditions, the Technical Specifications, and associated Addenda.

2.2.25. TASK ORDER

A document that describes the Work or describes a series of tasks that the Company will perform in accordance with the Contract Documents. A Task Order may be issued as an attachment to a Purchase Order, but the Task Order is neither a Purchase Order, nor a Notice to Proceed.

2.2.26. TERM

The period of time during which the Contract is in force or until the Contract's Maximum Indebtedness is reached, whichever occurs first.

2.2.27. UNIT PRICES

The charges to JEA for the performance of each respective unit of Work as stated in the Response Workbook, Bid Form, or Proposal Form, and incorporated into the the Contract Documents.

2.2.28. WORK OR SCOPE OF SERVICES

Work includes as defined in the Contract Documents all actions, products, documentation, electronic programs, reports, testing, transport, administration, management, services, materials, tools, equipment, and responsibilities to be furnished or performed by the Company under the Contract, together with all other additional necessities that are not specifically recited in the Contract, but can be reasonably inferred as necessary to complete all obligations and fully satisfy the intent of the Contract.

2.3. CONTRACT DOCUMENTS

2.3.1. ORDER OF PRECEDENCE

The Contract shall consist of JEA's Contract and/or Purchase Order together with the Solicitation including, but not limited to, the executed Bid Documents, which shall be collectively referred to as the Contract Documents. This Contract is the complete agreement between the parties. Parol or extrinsic evidence will not be used to vary or contradict the express terms of this Contract. The Contract Documents are complementary; what is called for by one is binding as if called for by all. The Company shall inform JEA in writing of any conflict, error or discrepancy in the Contract Documents upon discovery. Should the Company proceed with the Work prior to written resolution of the error or conflict by JEA, all Work performed is at the sole risk of the Company. JEA will generally consider this precedence of the Contract Documents in resolving any conflict, error, or discrepancy:

- Executed Contract Documents
- Contract Amendments
- Exhibits to Contract Documents
- Addenda to JEA ITN
- Drawings associated with this ITN
- Exhibits and Attachments to this ITN
- Technical Specifications associated with this ITN
- Response Documents
- References

The figure dimensions on drawings shall govern over scale dimensions. Contract and detailed drawings shall govern over general drawings. The Company shall perform any Work that may reasonably be inferred from the Contract as being required whether or not it is specifically called for. Work, materials or equipment described in words that, so applied, have a well-known technical or trade meaning shall be taken as referring to such recognized standards.

2.4. PRICE AND PAYMENTS

2.4.1. PAYMENT METHOD – PROGRESS PAYMENT TRANSFORMERS

For each Purchase Order, the Company shall submit to JEA an Invoice for the amount/percentage of the Purchase Order Price corresponding to that Milestone. All payments shall be reviewed and approved by JEA's Engineer.

The Milestone payment schedule associated with each Purchase Order Work or Services is provided below

Milestone #	**Description**	**%**
1	Design & Manufacturing Plan Approval by JEA	10%
2	Materials Receipt (at the Manufacturer)	20%
3	Manufacturing & Assembly Complete	20%
4	Factory Acceptance Testing Complete, report received and signed off by JEA	10%
5	Upon Delivery to JEA specified site	30%
6	Final JEA Acceptance	10%

** Note if more than one (1) substation transformer is listed on each purchase order, the above listed Payment schedule shall be applied to each individual transformer.

2.4.2. PAYMENT METHOD – DELIVERY AND INVOICE

For each Purchase Order, the Company shall submit to JEA an Invoice for the amount on the purchase order for any materials and services optional items ordered from the Bid Workbook.

2.4.3. COST SAVING PLAN

During the Term of this Contract, JEA and Company are encouraged to identify ways to reduce the total cost to JEA related to the Work provided by the Company ("Cost Savings Plan"). JEA and Company may negotiate Amendments to this Contract that support and allow such reductions in total costs including, but not limited to, the sharing of savings resulting from implementation of cost-reducing initiatives between JEA and Company. The decision to accept any cost savings plan shall be in the sole discretion of JEA, and JEA shall not be liable to Company for any cost that may be alleged to be related to a refusal to accept a Cost Savings Plan proposed by Company.

2.4.4. TRANSFORMER PRICE ADJUSTMENT – PRICE ADJUSTED AT PURCHASE

Unit prices for transformers shall be fixed price and base dated on the Contract Date. Unit Prices shall be adjusted within thirty (30) days of individual purchase order issuances, based on the price adjustment BLS Transformer Index - PCU3353113353111. The most recently published, monthly index shall be used when calculating price adjustments for new orders in the following method:

<u>Example:</u>
Unit Price $500,000.00 on Contract Date.
Contract Date: March 2016 – Index 176.5
New PO to be issued in May 2017 - April – 2017 – Index 185.1

New Unit Price = $500,000 X ((185.1-176.5)/176.5) **PPI Industry Data**

Series Id: PCU3353113353111
Industry: Electric power and specialty transformer mfg
Product: Power and distribution transformers, except parts
Base Date: 199912

Download:

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2007	149.6	157.1	158.9	159.4	162.5	161.5	163.0	165.0	162.9	164.0	165.3	164.2
2008	170.2	170.9	178.4	179.9	183.7	189.9	195.4	194.3	194.6	194.0	178.3	174.4
2009	165.7	169.5	171.9	171.1	171.0	173.4	172.9	177.1	180.2	181.4	185.6	187.7
2010	190.5	190.7	190.5	191.1	194.0	192.4	191.6	191.8	191.8	192.6	193.7	193.7
2011	195.5	198.4	199.9	201.6	202.7	201.6	201.3	201.6	199.5	199.6	199.6	200.2

Series Id: PCU3353113353111
Industry: Electric power and specialty transformer mfg
Product: Power and distribution transformers, except parts
Base Date: 199912

Download:

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2012	203.0	203.0	199.5	199.8	199.3	197.9	194.7	194.8	194.9	196.0	194.9	194.4
2013	195.8	195.7	196.0	194.4	195.7	193.9	192.8	194.3	195.2	194.5	194.1	193.3
2014	193.7	194.1	194.8	194.3	195.0	194.9	196.0	196.3	195.4	194.6	193.1	192.4
2015	190.3	188.0	186.9	183.4	184.2	183.6	183.2	182.3	180.2	177.0	175.3	174.4
2016	174.4	175.1	176.5	177.6	177.5	177.5	177.3	176.9	176.6	176.8	177.5	179.3
2017	179.2(P)	179.5(P)	183.0(P)	185.1(P)								

P: Preliminary. All indexes are subject to revision four (4) months after original publication.

https://data.bls.gov/timeseries/PCU3353113353111?data_tool=XGtable

Note, preliminary numbers shall be used as final numbers for price adjustment. No changes to the transformer unit price shall be adjusted based on changes from preliminary to final.

In the event the applicable price publication ceases, the Company and JEA shall mutually agree on a replacement index. If the Company and JEA fail to agree on a replacement index, the Contract shall terminate on the next Anniversary Date.

OPTIONS PRICING - PRICE ADJUSTMENT-FIXED THREE (3) YEARS, ANNUAL THEREAFER
Contract prices for labor rates will remain fixed through the first three (3) years of the Contract. Thereafter, the Company may request a CPI adjustment annually for its labor rates. ALL OTHER RATES AND MARK UPS SHALL BE FIXED FOR THE TERM OF THE CONTRACT.

Each request for a price adjustment, after the three (3) year period must be made within thirty (30) days after the completion of each year from the date (Anniversary Date).

When a timely price adjustment request is received, JEA will recognize the price adjustment within thirty (30) days after the Anniversary Date. No retroactive price adjustments will be allowed.

Unless the Company and JEA make other agreements, the annual price adjustment for the Contract shall be in accordance with the Consumer Price Index for all urban consumers published monthly by the U.S. Department of Labor, Bureau of Labor Statistics. The index used will be the unadjusted percent change for the previous twelve (12) months of the Company's written CPI adjustment request is received by JEA.

In the event the applicable price index publication ceases, the Company and JEA shall mutually agree on a replacement index. If the Company and JEA fail to agree on a replacement index, the Contract shall terminate effective on the next Anniversary Date.

2.4.5. DISCOUNT PRICING

JEA offers any or all of the following option payment terms, one of which may be executed at the request of the Company by sending an email to the JEA Buyer listed in this Solicitation:

- 1% 20, net 30
- 2% 10, net 30

The Company may request alternate payment terms for JEA's consideration, however, alternate payment terms are not effective until acceptance by JEA in writing. Please note, all payment dates are calculated from the date of the Invoice receipt by JEA's Accounts Payable.

2.4.6. INVOICING AND PAYMENT TERMS

Within sixty (60) days from completion of the Work, the Company shall submit all Invoices in accordance with the payment method agreed upon in these Contract Documents. Invoices shall be submitted to the following address: JEA Accounts Payable, P.O. Box 4910, Jacksonville, FL 32201-4910.

JEA will pay the Company the amount requested within thirty (30) calendar days after receipt of an Invoice from the Company subject to the provisions stated below.

JEA may reject any Invoice or Application for Payment within twenty (20) calendar days after receipt. JEA will return the Invoice or Application for Payment to the Company stating the reasons for rejection.

Upon receipt of an acceptable revised Invoice or Application for Payment, JEA will pay the Respondent the revised amount within ten (10) days.

JEA may withhold payment if the Respondent is in violation of any conditions or terms of the Contract Documents.

In the case of early termination of the Contract, all payments made by JEA against the Contract Price prior to notice of termination shall be credited to the amount, if any, due the Company. If the parties determine that the sum of all previous payments and credits exceeds the sum due the Company, the Company shall refund the excess amount to JEA within ten (10) days of determination or written notice.

2.4.7. OFFSETS

In case the Company is in violation of any requirement of the Contract, JEA may withhold payments that may be due the Company, and may offset existing balances with any JEA incurred costs against funds due the Company under this and any other Company Contract with JEA, as a result of the violation, or other damages as allowed by the Contract Documents and applicable law.

2.4.8. TAXES

JEA is authorized to self-accrue the Florida Sales and Use Tax and is exempt from Manufacturer's Federal Excise Tax when purchasing tangible personal property for its direct consumption.

2.5. WARRANTIES AND REPRESENTATIONS

2.5.1. WARRANTY MAINTENANCE

Unless otherwise stated herein, the Company unconditionally warrants to JEA for a period of not less than **Five (5) year(s)** from the date of issuance of JEA's Acceptance, that all Work furnished under the Contract, including but not limited to, materials, equipment, workmanship, and intellectual property, including derivative works will be:

- Performed in a safe, professional and workman like manner; and
- Free from Defects in design, material, and workmanship; and
- Fit for the use and purpose specified or referred to in the Contract; and
- Suitable for any other use or purpose as represented in writing by the Contractor; and
- In conformance with the Contract Documents; and
- Merchantable, new and of first-class quality.

The Company warrants that the Work shall conform to all applicable standards and regulations promulgated by federal, state, local laws and regulations, standards boards, organizations of the Department of State, and adopted industry association standards. If the Work fails to conform to such laws, rules, standards and regulations, JEA may return the Work for correction or replacement at the Company's expense, or return the Work at the Company's expense and terminate the Contract.

If the Company performs services that fail to conform to such standards and regulations or to the warranties set forth in the first paragraph of this Section, the Company shall make the necessary corrections at Company's expense. JEA may correct any services to comply with standards and regulations at the Company's expense if the Company fails to make the appropriate corrections within a reasonable time after notice of the Defect from JEA.

If Work includes items covered under a manufacturer's or Subcontractor's warranty that exceeds the requirements stated herein, Company shall transfer such warranty to JEA. Such warranties, do not in any way limit the warranty provided by the Company to JEA.

If, within the warranty period, JEA determines that any of the Work is defective or exhibit signs of excessive deterioration, the Company at its own expense, shall repair, adjust, or replace the defective Work to the complete satisfaction of JEA. The Company shall pay all costs of removal, transportation, reinstallation, repair, and all other associated costs incurred in connection with correcting such Defects in the Work. The Company shall correct any Defects only at times designated by JEA. The Company shall extend the warranty period an additional twelve (12) months for any portion of the Work that has undergone warranty repair or replacement, but in no case shall the maximum warranty period be extended beyond thirty-six (36) months.

JEA may repair or replace any defective Work at the Company's expense when the Company fails to correct the Defect within a reasonable time of receiving written notification of the Defect by JEA, when the Company is unable to respond in an emergency situation or when necessary to prevent JEA from substantial financial loss. Where JEA makes repairs or replaces defective Work, JEA will issue the Company a written accounting and invoice of all repair work required to correct the Defects.

Where spare parts may be needed, Company warrants that spare parts will be available to JEA for purchase for at least seventy-five percent (75%) of the stated useful life of the product.

The Company's warranty excludes any remedy for damage or Defect caused by abuse, improper or insufficient maintenance, improper operation, or wear and tear under normal usage.

Note that JEA intends to perform a warranty inspection prior to the expiration of the warranty period. JEA will notify the Company and the Company Representative shall attend the inspection. All discrepancies identified at said inspection shall be corrected by the Company within a reasonable timeframe.

Materials, Supplies or Goods:

At JEA's option, if the Company provides materials, supplies, or goods that fail to conform to the above mentioned warranties, JEA may correct the Defect at the Company's expense if the Company fails to make the appropriate corrections within a reasonable time upon notice by JEA, or JEA may return the Work for correction or replacement at the Company's expense, or JEA may return the Work at the Company's expense and terminate the Contract.

If, within the warranty period, JEA determines that any of the materials, supplies or goods are defective or exhibit signs of excess deterioration, the Company, at its own expense, shall repair, adjust, or replace the defective Work to the complete satisfaction of JEA. The Company shall pay all costs of removal, transportation, reinstallation, repair, and all other associated costs incurred in connection with correcting such Defects in the Work. The Company shall correct any Defects only at times designated by JEA. The Company shall extend the warranty period an additional 12 months for any portion of the Work that has undergone warranty repair or replacement, but in no case shall the maximum warranty be extended beyond thirty-six (36) months.

If Work includes items covered under a manufacturer's or Subcontractor's warranty that exceeds the requirements stated herein, Company shall transfer such warranty to JEA. Such warranties, do not in any way limit the warranty provided by the Company to JEA.

JEA may repair or replace any defective Work at the Company's expense when the Company fails to correct the Defect within a reasonable time of receiving written notification of the Defect by JEA, when the Company is unable to respond in an emergency situation, or when necessary to prevent JEA from substantial financial loss. Where JEA makes repairs or replaces defective Work, JEA will issue the Company a written accounting and invoice of all such work to correct Defects.

Where spare parts may be needed, Company warrants that spare parts will be available to JEA for purchase for at least seventy-five percent (75%) of the stated useful life of the product.

The Company's warranty excludes remedy for damage or Defect caused by abuse, improper or insufficient maintenance, improper operation, or wear and tear under normal usage.

2.6. INSURANCE, INDEMNITY AND RISK OF LOSS

2.6.1. INSURANCE

INSURANCE REQUIREMENTS

Before starting and until acceptance of the Work by JEA, and without further limiting its liability under the Contract, Company shall procure and maintain at its sole expense, insurance of the types and in the minimum amounts stated below:

<u>Workers' Compensation</u>

Florida Statutory coverage and Employer's Liability (including appropriate Federal Acts); Insurance Limits: Statutory Limits (Workers' Compensation) $500,000 each accident (Employer's Liability).

Commercial General Liability
Premises-Operations, Products-Completed Operations, Contractual Liability, Independent Contractors, Broad Form Property Damage, Explosion, Collapse and Underground, Hazards (XCU Coverage) as appropriate; Insurance Limits: $1,000,000 each occurrence, $2,000,000 annual aggregate for bodily injury and property damage, combined single limit.

Automobile Liability
All autos-owned, hired, or non-owned; Insurance Limits: $1,000,000 each occurrence, combined single limit.

Excess or Umbrella Liability
(This is additional coverage and limits above the following primary insurance: Employer's Liability, Commercial General Liability, and Automobile Liability); Insurance Limits: $2,000,000 each occurrence and annual aggregate.

Company's Commercial General Liability and Excess or Umbrella Liability policies shall be effective for two years after Work is complete. The Indemnification provision provided herein is separate and is not limited by the type of insurance or insurance amounts stated above.

Company shall specify JEA as an additional insured for all coverage except Workers' Compensation and Employer's Liability. Such insurance shall be primary to any and all other insurance or self-insurance maintained by JEA. Company shall include a Waiver of Subrogation on all required insurance in favor of JEA, its board members, officers, employees, agents, successors and assigns.

Such insurance shall be written by a company or companies licensed to do business in the State of Florida and satisfactory to JEA. Prior to commencing any Work under this Contract, certificates evidencing the maintenance of the insurance shall be furnished to JEA for approval. Company's and its subcontractors' Certificates of Insurance shall be mailed to JEA (Attn. Procurement Services), Customer Care Center, 6th Floor, 21 West Church Street, Jacksonville, FL 32202-3139.

The insurance certificates shall provide that no material alteration or cancellation, including expiration and non-renewal, shall be effective until thirty (30) days after receipt of written notice by JEA.

Any subcontractors of Company shall procure and maintain the insurance required of Company hereunder during the life of the subcontracts. Subcontractors' insurance may be either by separate coverage or by endorsement under insurance provided by Company. Note: Any JSEB firms identified by Bidders for this Solicitation are considered "Subcontractors" under the direct supervision of the Prime or General Contractor (herein referred to as "Company"). Companies should show good faith efforts in providing assistance to JSEB firms in the securing of the Subcontractors' insurance requirements stated herein. Company shall submit subcontractors' certificates of insurance to JEA prior to allowing Subcontractors to perform Work on JEA's job sites.

2.6.2. INDEMNIFICATION (JEA STANDARD)

For ten dollars ($10.00) acknowledged to be included and paid for in the contract price and other good and valuable considerations, the Company shall hold harmless and indemnify JEA against any claim, action, loss, damage, injury, liability, cost and expense of whatsoever kind or nature (including, but not by way of limitation, reasonable attorney's fees and court costs) arising out of injury (whether mental or corporeal) to persons, including death, or damage to property, arising out of or incidental to the negligence, recklessness or intentional wrongful misconduct of the Company and any person or entity used by Company in the performance of this Contract or Work performed thereunder. For purposes of this Indemnification, the term "JEA" shall mean JEA as a body politic and corporate and shall include its governing board, officers, employees, agents, successors and assigns. This indemnification shall

survive the term of a Contract entered into pursuant to this solicitation, for events that occurred during the Contract term. This indemnification shall be separate and apart from, and in addition to, any other indemnification provisions set forth elsewhere in this Contract.

2.6.3. RISKS AND PROPERTY

Ownership, risks of damage to or loss of the items shall pass to JEA upon Acceptance. The Company shall retain the sole risk of loss to the Work up to and including the time of Acceptance. In the event of loss or damage to the Work, the Company shall bear all costs associated with any loss or damage.

2.7. TERM AND TERMINATION

2.7.1. TERM OF CONTRACT – DEFINED DATES

This Contract shall commence on the effective date of the Contract, and continue and remain in full force and effect as to all its terms, conditions and provisions as set forth herein for FIVE (5) years, or until the Contract's Maximum Indebtedness is reached, whichever occurs first. It is at JEA's sole option to renew the Contract.

It is at JEA's sole option to renew the Contract for an additional one (1) year period.

This Contract, after the initial year shall be contingent upon the existence of lawfully appropriated funds for each subsequent year of the Contract.

2.7.2. TERMINATION FOR CONVENIENCE

JEA shall have the absolute right to terminate the Contract in whole or part, with or without cause, at any time after the Award effective date upon written notification of such termination.

In the event of termination for convenience, JEA will pay the Company for all disbursements and expenses that the Company has incurred, or has become obligated prior to receiving JEA's notice of termination.
Upon receipt of such notice of termination, the Company shall stop the performance of the Work hereunder except as may be necessary to carry out such termination and take any other action toward termination of the Work that JEA may reasonably request, including all reasonable efforts to provide for a prompt and efficient transition as directed by JEA.

JEA will have no liability to the Company for any cause whatsoever arising out of, or in connection with, termination including, but not limited to, lost profits, lost opportunities, resulting change in business condition, except as expressly stated within these Contract Documents.

2.7.3. TERMINATION FOR DEFAULT

JEA may give the Company written notice to discontinue all Work under the Contract in the event that:

- The Company assigns or subcontracts the Work without prior written permission;
- Any petition is filed or any proceeding is commenced by or against the Company for relief under any bankruptcy or insolvency laws;
- A receiver is appointed for the Company's properties or the Company commits any act of insolvency (however evidenced);
- The Company makes an assignment for the benefit of creditors;
- The Company suspends the operation of a substantial portion of its business;

- The Company suspends the whole or any part of the Work to the extent that it impacts the Company's ability to meet the Work schedule, or the Company abandons the whole or any part of the Work;
- The Company, at any time, violates any of the conditions or provisions of the Contract Documents, or the Company fails to perform as specified in the Contract Documents, or the Company is not complying with the Contract Documents;
- The Company attempts to willfully impose upon JEA items or workmanship that are, in JEA's sole opinion, defective or of unacceptable quality;
- The Company breaches any of the representations or warranties;
- The Company is determined, in JEA's sole opinion, to have misrepresented the utilization of funds or misappropriate property belonging to JEA; or
- Any material change in the financial or business condition of the Company.

If within fifteen (15) days after service of such notice upon the Company an arrangement satisfactory to JEA has not been made by the Company for continuance of the Work, then JEA may declare Company to be in default of the Contract.

Once Company is declared to be in default, JEA will charge the expenses of completing the Work to the Company and will deduct such expenses from monies due, or which at any time thereafter may become due, to the Company. If such expenses are more than the sum that would otherwise have been payable under the Contract, then the Company shall pay the amount of such excess to JEA upon receipt of notice of the expenses from JEA. JEA shall not be required to obtain the lowest price for completing the Work under the Contract, but may make such expenditures that, in its sole judgment, shall best accomplish such completion. JEA will, however, make reasonable efforts to mitigate the excess costs of completing the Work.

The Contract Documents shall in no way limit JEA's right to all remedies for nonperformance provided under law or in equity, except as specifically set forth herein. In the event of termination for nonperformance, the Company shall immediately surrender all Work records to JEA. In such a case, JEA may set off any money owed to the Company against any liabilities resulting from the Company's nonperformance.

JEA has no responsibility whatsoever to issue notices of any kind, including but not limited to deficient performance letters and scorecards, to the Company regarding its performance prior to default by Company for performance related issues.

JEA shall have no liability to the Company for termination costs arising out of the Contract, or any of the Company's subcontracts, as a result of termination for default.

2.8. CONFIDENTIALITY AND OWNERSHIP OF DOCUMENTATION

2.8.1. PUBLIC RECORDS LAWS

Access to Public Records

All Documents, data and other records received by JEA in connection with the Contract are public records and available for public inspection unless specifically exempt by law. The Company shall allow public access to all documents, data and other records made or received by the Company in connection with the Contract unless the records are exempt from Section 249(a) of Article I of the Florida Constitution or subsection 119.07(1), Florida Statutes. JEA may unilaterally terminate the Contract of the Company refuses to allow public access as required under the Contract.

Redacted copies of Confidential Information
If the Company believes that any portion of any documents, data or other records submitted to JEA are exempt from disclosure under Chapter 119, Florida Statutes, the Florida Constitution and related laws ("Florida's Public Records Laws"), Company must (1) clearly segregate and mark the specific sections of the document, data and records as "Confidential", (2) cite the specific Florida Statute or other legal authority for the asserted exemption, and (3) provide JEA with a separate redacted copy of the documents, data, or records (the "Redacted Copy"). The Redacted Copy shall contain JEA's contract name and number, and shall be clearly titled "Redacted Copy". Bidder should only redact those portions of records that Bidder claims are specifically exempt from disclosure under Florida's Public Records Laws. If the Company fails to submit a redacted copy of documents, data, or other records it claims is confidential, JEA is authorized to produce all documents, data, and other records submitted to JEA in answer to a public records request for these records.

Request for Redacted Information
In the event of a public records or other disclosure request under Florida's Public Records Laws or other authority to which the Company's documents, data or records are responsive, JEA will provide the Redacted Copy to the requestor. If a Requestor asserts a right to any redacted information, JEA will notify the Company that such an assertion has been made. It is the Company's responsibility to respond to the requestor to assert that the information in questions is exempt from disclosure under applicable law. If JEA becomes subject to a demand for discovery or disclosure of the redacted information under legal process, JEA shall give the Company prompt notice of the demand prior to releasing the redacted information (unless otherwise prohibited by applicable law). The Company shall be responsible for defending it determination that the redacted portions of the information are not subject to disclosure.

Indemnification for Redacted Information
The Company shall protect, defend, and indemnify JEA from and against all claims, demands, actions, suits, damages, liabilities, losses, settlements, judgments, costs, and expenses (including but not limited to reasonable attorney's fees and costs) arising from or relating to the Company's assertion that all or any portion of its information is not subject to disclosure.

Public Records Clause for Service Contracts
If, under the Contract, the Company is providing services and is acting on behalf of JEA as contemplated by subsection 119.011(2), Florida Statutes, the Company shall:

- Keep and maintain public records that ordinarily and necessarily would be required by JEA in order to perform service;
- Provide the public with access to public records on the same terms and conditions that JEA would provide the records and at a cost that does not exceed the cost provided in Chapter 119, Florida Statues, or otherwise prohibited by law;
- Ensure that public records that are exempt or confidential and exempt from public records disclosure requirements are not disclosed except as authorized by law; and
- Meet all requirements for retaining public records and transfer, at no cost, to JEA all public records in possession of the Company upon termination of the contract and destroy any duplicate public records that are exempt or confidential and exempt from public records disclosure requirements. All records stored electronically shall be provided to JEA in a format that is compatible with the information technology systems of JEA.

IF THE COMPANY HAS QUESTIONS REGARDING THE APPLICATION OF CHAPTER 119, FLORIDA STATUTES, TO THE COMPANY'S DUTY

TO PROVIDE PUBLIC RECORDS RELATING TO THIS CONTRACT, CONTACT THE CUSTODIAN OF PUBLIC RECORDS AT:

JEA
Attn: Public Records
21 West Church Street
Jacksonville, Florida 32202
Ph: 904-665-8606
publicrecords@jea.com

2.8.2. INTELLECTUAL PROPERTY

The Company grants to JEA an irrevocable, perpetual, royalty free and fully paid-up right to use (and such right includes, without limitation, a right to copy, modify and create derivative works from the subject matter of the grant of the right to sublicense all, or any portion of, the foregoing rights to an affiliate or a third party service provider) the Company's intellectual property (including, without limitation, all trade secrets, patents, copyright and know-how) that is contained or embedded in, required for the use of, that was used in the production of or is required for the reproduction, modification, maintenance, servicing, improvement or continued operation of any applicable unit of Work.

If the Work contains, has embedded in, requires for the use of any third party intellectual property, or if the third party intellectual property is required for the reproduction, modification, maintenance, servicing, improvement or continued operation of the Work, the Company shall secure for JEA an irrevocable, perpetual, royalty free and fully paid-up right to use all third party intellectual property. The Company shall secure such right at its expense and prior to incorporating any third party intellectual property (including, without limitation, all trade secrets, patents, copyright and know-how) into any Work, including, without limitation, all drawings or data provided under the Contract, and such right must include, without limitation, a right to copy, modify and create derivative works from the subject matter of the grant of the right and a right to sublicense all or any portion of the foregoing rights to an affiliate or a third party service provider.

Should JEA, or any third party obtaining such work product through JEA, use the Work or any part thereof for any purpose other than that which is specified herein, it shall be at JEA's sole risk.

The Company will, at its expense, defend all claims, actions or proceedings against JEA based on any allegation that the Work, or any part of the Work, constitutes an infringement of any patent or any other intellectual property right, and will pay to JEA all costs, damages, charges, and expenses occasioned to JEA by reason thereof. JEA will give the Company written notice of any such claim, action or proceeding and, at the request and expense of the Company, JEA will provide the Company with available information, assistance and authority for the defense.

If, in any action or proceeding, the Work, or any part thereof, is held to constitute an infringement, the Company will, within thirty (30) days of notice, either secure for JEA the right to continue using the Work or will, at the Company's expense, replace the infringing items with noninfringing Work or make modifications as necessary so that the Work no longer infringes.

The Company will obtain and pay for all patent and other intellectual property royalties and license fees required in respect of the Work.

2.8.3. PROPRIETARY INFORMATION

The Company shall not copy, reproduce, or disclose to third parties, except in connection with the Work, any information that JEA furnishes to the Company. The Company shall insert in any subcontract a restriction on the use of all information furnished by JEA. The Company shall not use this information on another project. All information furnished by JEA will be returned to JEA upon completion of the Work.

2.8.4. PUBLICITY AND ADVERTISING

The Company shall not take any photographs, make any announcements or release any information concerning the Contract or the Work to any member of the public, press or official body unless prior written consent is obtained from JEA.

2.8.5. PATENTS AND COPYRIGHTS

In consideration of ten dollars ($10.00), receipt and sufficiency is hereby acknowledged, Company shall hold harmless and indemnify JEA from and against liability or loss, including but not limited to any claims, judgments, court costs and attorneys' fees incurred in any claims, or any pretrial, trial or appellate proceedings on account of infringements of patents, copyrighted or uncopyrighted works, secret processes, trade secrets, patented or unpatented inventions, articles or appliances, or allegations thereof, pertaining to the Services, or any part thereof, combinations thereof, processes therein or the use of any tools or implements used by Company.

Company will, at its own expense, procure for JEA the right to continue use of the Services, parts or combinations thereof, or processes used therein resulting from a suit or judgment on account of patent or copyright infringement.

If, in any such suit or proceeding, a temporary restraining order or preliminary injunction is granted, Company will make every reasonable effort, by giving a satisfactory bond or otherwise, to secure the suspension of such restraining order or temporary injunction.

If, in any such suit or proceeding, any part of the Services is held to constitute an infringement and its use is permanently enjoined, Company will, at once, make every reasonable effort to secure for JEA a license, authorizing the continued use of the Services. If Company fails to secure such license for JEA, Company will replace the Services with non-infringing Services, or modify the Services in a way satisfactory to JEA, so that the Services are non-infringing.

2.9. LABOR

2.9.1. NONDISCRIMINATION

The Company represents that it has adopted and will maintain a policy of nondiscrimination against employees or applicants for employment on account of race, religion, sex, color, national origin, age or handicap, in all areas of employee relations, throughout the Term of this Contract. The Company agrees that on written request, it will allow JEA reasonable access to the Company's records of employment, employment advertisement, application forms and other pertinent data and records for the purpose of investigation to ascertain compliance with the nondiscrimination provisions of this Contract; provided however, the Company shall not be required to produce, for inspection, records covering periods of time more than one (1) year from the effective date of this Contract.

The Company shall comply with the following executive orders, acts, and all rules and regulations implementing said orders or acts, which are by this reference incorporated herein as if set out in their entirety:

- The provisions of Presidential Order 11246, as amended, and the portions of Executive Orders 11701 and 11758 as applicable to Equal Employment Opportunity;
- The provisions of section 503 of the Rehabilitation Act of 1973, as amended, and the Americans with Disabilities Act (ADA); and
- The provisions of the Employment and Training of Veterans Act, 38 U.S.C. 4212 (formerly 2012).

The Company agrees that if any of the Work of this Contract will be performed by a Subcontractor, then the provisions of this subsection shall be incorporated into and become a part of the subcontract.

2.9.2. LEGAL WORKFORCE

JEA shall consider the Company's employment of unauthorized aliens a violation of section 274A(e) of the Immigration and Nationalization Act. Such violation shall be cause for termination of the Contract for default upon thirty (30) days' prior written notice of such termination, notwithstanding any other provisions to the contrary in the Contract Documents.

2.9.3. PROHIBITED FUTURE EMPLOYMENT

It shall be unlawful and a class C offense for any person, who was an officer or employee of JEA, after his or her employment has ceased, to be employed by or enter into any contract for personal services, with a person or company who contracted with, or had a contractual relationship with JEA, while the contract is active or being completed, or within two (2) years of the cessation, completion, or termination of the person's or company's contractual relationship with JEA, where (1) the contract with JEA had a value that exceeded $250,000, and (2) the officer or employee had a substantial and decision-making role in securing or negotiating the contract or contractual relationship, or in the approval of financial submissions or draws in accordance with the terms of the contract; except that this prohibition shall not apply to an employee whose role is merely as a review signatory, or to contracts entered into prior to January 1, 2008, or to contracts that have been competitively procured. With respect to this subsection a contract is competitively procured if it has been obtained through a sealed low bid award. A "substantial and decision-making role" shall include duties and/or responsibilities that are collectively associated with: (i) approving solicitation or payment documents; (ii) evaluating formal bids and proposals; and (iii) approving and/or issuing award recommendations for JEA Awards Committee approval. The contract of any person or business entity who hires or contracts for services with any officer or employee prohibited from entering into said relationship shall be voidable at the pleasure of JEA. This prohibition shall not apply to any former officer or employee after two (2) years from cessation from JEA employment.

2.9.4. HIRING OF OTHER PARTY'S EMPLOYEES

Each party recognizes that the other party has incurred or will incur significant expenses in training its own employees and agrees that it will not pursue or hire, without the other party's consent, the other party's employees or the employees of its subsidiaries for a period of two (2) years from the termination date of this Contract.

2.9.5. COMPANY'S LABOR RELATIONS

The Company shall negotiate and resolve any disputes between the Company and its employees, or anyone representing its employees. The Company shall immediately notify JEA of any actual or potential labor dispute that may affect the Work and shall inform JEA of all actions it is taking to resolve the dispute.

2.10. COMPANY'S RESPONSIBILITIES AND PERFORMANCE OF THE CONTRACT

2.10.1. JEA ACCESS BADGES

If the scope of work described in this Contract requires a Company to access JEA facilities, each Company employee shall apply for a JEA access badge through JEA's Security Department. An appointment to obtain a JEA

access badge can be made by contacting JEA Security at securitybadge@jea.com. Finally, JEA does not allow Company employees to share JEA access badges. A Company whose employees are found to be sharing JEA access badges, will result in the Contract being terminated immediately for default. Additionally, JEA shall be notified within six (6) hours of a lost or stolen JEA security badge or when an employee leaves the Company. Report badge termination notifications to JEA Security at (904) 665-8200.

2.10.2. JEA CRITICAL INFRASTRUCTURE PROTECTION (CIP)

Pursuant to federal regulations, JEA is required to implement Critical Infrastructure Protection (CIP) and comply with NERC/FERC reliability standards for identified assets (collectively the "Assets"). Assets can be defined as either physical or cyber that are essential for JEA to maintain the integrity of the bulk electric system. Therefore, a Company that requires access to the Assets shall require that each of its employees, who require unescorted access apply for a JEA access badge through JEA's Security Department. Depending on which Assets a Company must access will determine the specific training and/or personal background screenings that will be required before a JEA badge can be issued. JEA will pay for reasonable costs associated with initial background screenings and training for required Company employees. However, if an initial screening is failed, the Company will be responsible for the cost of that screening and for additional screening costs related to Company employee turnover. An appointment to obtain a JEA access badge can be made by contacting JEA Security at sercuritybadge@jea.com.

Finally, all badges are for assigned individual use only and JEA does not allow Company employees to share JEA access badges. A Company, whose employees are found to be sharing JEA access badges, may result in the Contract being terminated for default. Additionally, JEA shall be notified within six (6) hours of a lost or stolen JEA security badge or when an employee leaves the Company and Company should bear the cost of replacement security badge. Report badge termination notifications to JEA Security at (904) 665-8200.

The language in the above paragraphs shall also apply to Company's Subcontractors, and shall be included in Company's contracts with its Subcontractors for Work or Services to be performed at JEA or SJRPP Facilities.

JEA reserves the right to modify these terms if the applicable regulations change or additional regulations become applicable. JEA will provide sufficient notice in advance for Company to adapt the updated regulations.

2.10.3. COMPANY REPRESENTATIVES

The Company shall provide JEA with the name and responsibilities of the Company Representative, in writing after Award of the Contract and before starting the Work under the Contract. Should the Company need to change the Company Representative, the Company shall promptly notify JEA in writing of the change.

2.10.4. COMPANY REVIEW OF PROJECT REQUIREMENTS

The Company shall review the Work requirements and specifications prior to commencing Work. The Company shall immediately notify the Contract Administrator in writing of any conflict with applicable law, or any error, inconsistency or omission it may discover. JEA will promptly review the alleged conflicts, errors, inconsistencies or omissions, and issue a Change Order or Purchase Order as appropriate if JEA is in agreement with the alleged conflict, and issue revised specifications. Any Work the Company performs prior to receipt of approved Change Order will be at the Company's sole risk.

2.10.5. LICENSES

The Company shall comply with all licensing, registration and/or certification requirements pursuant to applicable laws, rules and regulations. The Company shall secure all licenses, registrations and certifications as required for the performance of the Work and shall pay all fees associated with securing them. The Company shall produce written evidence of licenses and other certifications immediately upon request from JEA.

2.10.6. SAFETY AND PROTECTION PRECAUTIONS

The Company shall comply with all applicable federal, state and local laws, ordinances, all JEA procedures and policies including any orders of any public body having jurisdiction for the safety of persons or protection of property. The Company understands and agrees that a violation of any provision of this clause is grounds for a Termination for Default, with no requirement to provide Company with a notice to cure. Additionally, the Company shall be responsible for all JEA damages associated with such termination.

The Company understands and agrees that JEA Representatives may stop Work at any time that JEA, at its sole discretion, considers the Company's Work to be unsafe or a risk to property, and to direct the Company to, at a minimum, perform as directed in such a way as to render the Work environment safe. The Company understands and agrees that it is responsible for paying all costs associated with providing a safe work environment including, but not limited to, any costs associated with any JEA directed safety improvements. The Company further understands and agrees that it is solely responsible for the safety of personnel and property associated with the Work, and that any actions taken by JEA to prevent harm to persons or damage to equipment does not, in any way, relieve the Company of this responsibility.

The Company Representative, or alternatively, the Company Supervisor, shall be designated as the Company's individual responsible for the prevention of accidents.

2.11. VENDOR PERFORMANCE EVALUATION

2.11.1. VENDOR PERFORMANCE EVALUATION

Use of Vendor Performance Evaluation Scorecards

JEA may evaluate the Company's performance using the evaluation criteria shown on the vendor scorecard available online at JEA.com.

Scores for all metrics shown on the evaluation range from a low of 1, meaning significantly deficient performance, to a high of 5, meaning exceptionally good performance. The Company's performance shall be classified as Top Performance, Acceptable Performance, or Unacceptable Performance, as defined herein. The evaluator will be a designated JEA employee. The evaluator's supervisor and the Chief Purchasing Officer will review deficient performance letters and Unacceptable Performance scorecards, as described below, prior to issuance. When evaluating the Company's performance, JEA will consider the performance of the Company's Subcontractors and suppliers, as part of the Company's performance.

Frequency of Evaluations

JEA may conduct performance evaluations and prepare scorecards in accordance with the procedures described herein at any time during performance of the Work or soon after the completion of the Work. JEA may conduct one or more evaluations determined solely at the discretion of JEA.

Unacceptable Performance

- If at any time, JEA determines, using the criteria described on the scorecard, that the performance of the Company is Unacceptable, the Contract Administrator and Chief Procurement Officer or his designated alternate will notify the Company of such in a letter. The Company shall have ten (10) days to respond to the Contract Administrator. Such response shall include, and preferably be delivered in-person by an officer of the Company, the specific actions that the Company will take to bring the Company's performance up to at least Acceptable Performance.

- Within thirty (30) days from date of the first Unacceptable Performance letter, the Contract Administrator and Chief Purchasing Officer or his designated alternate will notify the Company by letter as to whether its performance, as determined solely by JEA, is meeting expectations, or is continuing to be Unacceptable. If the Company's performance is described in the letter as meeting expectations, no further remedial action is required by the Company, as long as Company's performance continues to be Acceptable.
- If the Company's performance as described in the letter continues to be Unacceptable, or is inconsistently Acceptable, then the Company shall have fifteen (15) days from date of second letter to demonstrate solely through its performance of the Work, that it has achieved Acceptable Performance. At the end of the fifteen (15) day period, JEA will prepare a scorecard documenting the Company's performance from the start of Work, or date of most recent scorecard, whichever is latest, and giving due consideration to improvements the Company has made in its performance, or has failed to make. If the scorecard shows Company's performance is Acceptable, then no further remedial action is required by Company as long as Company's performance remains Acceptable. If the scorecard shows the Company's performance is Unacceptable, JEA will take such actions as it deems appropriate including, but not limited to, terminating the Contract for breach, suspending the Company from bidding on any JEA related solicitations, and other remedies available in the JEA Purchasing Code and in law. Such action does not relieve the Company of its obligations under the Contract, nor does it preclude an earlier termination.
- In the event that the Contract Term or the remaining Term of the Contract does not allow for the completion of the deficient performance notification cycles described above for those in danger of receiving an Unacceptable Performance scorecard, JEA may choose to accelerate these cycles at its sole discretion.
- If the Company receives five (5) or more letters of deficiency within any twelve (12) month period, then JEA will prepare a scorecard describing the deficiencies and the Company's performance will be scored as Unacceptable.

Acceptable Performance
JEA expects the Company's performance to be at a minimum Acceptable.

Disputes
In the event that the Company wants to dispute the results of its scorecard performance evaluation, the Company must submit a letter to the Chief Procurement Officer supplying supplemental information that it believes JEA failed to take into account when preparing the scorecard. Such letter, along with supplemental information, must be submitted no later than 10 days following the Company's receipt of the scorecard. If the Chief Procurement Officer decides to change the scorecard, the Company will be notified and a revised scorecard will be prepared, with a copy issued to the Company. If the Chief Procurement Officer decides that no change is warranted, the decision of the Chief Procurement Officer is final. If the Company is to be suspended from consideration for future Award of any contracts, the Company may appeal to the Procurement Appeals Board as per JEA Procurement Code.

Public Records
There can be no expectation of confidentiality of performance-related data in that all performance-related data is subject to disclosure pursuant to Florida Public Records Laws. All scorecards are the property of JEA.

2.12. JEA RESPONSIBILITIES

2.12.1. SUSPENSION OF SERVICES

JEA may suspend the performance of the Services by providing Company with five (5) days' written notice of such suspension. Schedules for performance of the Services shall be amended by mutual agreement to reflect such suspension. In the event of suspension of Services, the Company shall resume the full performance of the Services when directed in writing to do so by JEA. Suspension of Services for reasons other than the Company's negligence or failure to perform, shall not affect the Company's compensation as outlined in the Contract Documents.

2.12.2. FORCE MAJEURE

No party shall be liable for any default or delay in the performance of its obligations under this Contract due to an act of God or other event to the extent that: (a) the non-performing party is without fault in causing such default or delay; (b) such default or delay could not have been prevented by reasonable precautions; and (c) such default or delay could not have been reasonably circumvented by the non-performing party through the use of alternate sources, work-around plans or other means. Such causes include, but are not limited to: act of civil or military authority (including but not limited to courts or administrative agencies); acts of God; war; terrorist attacks; riot; insurrection; inability of JEA to secure approval, validation or sale of bonds; inability of JEA or the Company to obtain any required permits, licenses or zoning; blockades; embargoes; sabotage; epidemics; fires; hurricanes, tornados, floods; or strikes.

In the event of any delay resulting from such causes, the time for performance of each of the parties hereunder (including the payment of monies if such event actually prevents payment) shall be extended for a period of time reasonably necessary to overcome the effect of such delay, except as provided for elsewhere in the Contract Documents.

In the event of any delay or nonperformance resulting from such causes, the party affected shall promptly notify the other in writing of the nature, cause, date of commencement and the anticipated impact of such delay or nonperformance. Such written notice, including Change Orders, shall indicate the extent, if any, to which it is anticipated that any delivery or completion dates will be thereby affected within seven (7) calendar days.

2.12.3. COORDINATION OF SERVICES PROVIDED BY JEA

The JEA Representative for the Work will, on behalf of JEA, coordinate with the Company and administer this Contract. It shall be the responsibility of the Company to coordinate all assignment related activities with the designated JEA Representative. The JEA Representative will be assigned to perform day-to-day administration and liaison functions, and to make available to the Company appropriate personnel, to the extent practical, and to furnish records and available data necessary to conduct the Work. The JEA Representative will also authorize the Company to perform work under this Contract.

2.13. MISCELLANEOUS PROVISIONS

2.13.1. AMBIGUOUS CONTRACT PROVISIONS

The parties agree that this Contract has been the subject of meaningful analysis and/or discussions of the specifications, terms and conditions contained in this Contract. Therefore, doubtful or ambiguous provisions, if any, contained in this Contract will not be construed against the party who physically prepared this Contract.

2.13.2. AMENDMENTS

This Contract may not be altered or amended except in writing, signed by JEA Chief Procurement Officer, or designee, and the Company Representative, or each of their duly authorized representatives.

2.13.3. APPLICABLE STATE LAW; VENUE; SEVERABILITY

The rights, obligations and remedies of the parties as specified under the Contract will be interpreted and governed in all respects exclusively by the laws of the State of Florida without giving effect to the principles of conflicts of laws thereof. Should any provision of the Contract be determined by the courts to be illegal or in conflict with any law of the State of Florida, the validity of the remaining provisions will not be impaired. Litigation involving this Contract or any provision thereof shall take place in the State or Federal Courts located exclusively in Jacksonville, Duval County, Florida.

2.13.4. CUMULATIVE REMEDIES

Except as otherwise expressly provided in this Contract, all remedies provided for in this Contract shall be cumulative and in addition to and not in lieu of any other remedies available to either party at law, in equity or otherwise.

2.13.5. DELAYS

Neither party shall be considered in default in the performance of its obligations hereunder to the extent that the performance of such obligation is prevented or delayed by any cause beyond the reasonable control of the affected party, and the time for performance of either party hereunder shall be extended for a period of equal to any time lost due to such prevention or delay.

2.13.6. ENTIRE AGREEMENT

This Contract constitutes the entire agreement between the parties. No statement, representation, writing, understanding, or agreement made by either party, or any representative of either party, which are not expressed herein shall be binding. All changes to, additions to, modifications of, or amendment to this Contract, or any of the terms, provisions and conditions hereof, shall be binding only when in writing and signed by the authorized officer, agent or representative of each of the parties hereto.

2.13.7. EXPANDED DEFINITIONS

Unless otherwise specified, words importing the singular include the plural and vice versa and words importing gender include all genders. The term "including" means "including without limitation", and the terms "include", "includes" and "included" have similar meanings. Any reference in this Contract to any other agreement is deemed to include a reference to that other agreement, as amended, supplemented or restated from time to time. Any reference in the Contract to "all applicable laws, rules and regulations" means all federal, state and local laws, rules, regulations, ordinances, statutes, codes and practices.

2.13.8. HEADINGS

Headings appearing herein are inserted for convenience or reference only and shall in no way be construed to be interpretations of text.

2.13.9. INDEPENDENT CONTRACTOR

Company is performing this Contract as an independent contractor and nothing in this Contract will be deemed to constitute a partnership, joint venture, agency, or fiduciary relationship between JEA and Company. Neither Company nor JEA will be or become liable or bound by any representation, act, or omission of the other.

2.13.10. LANGUAGE AND MEASUREMENTS

All communication between the Company and JEA, including all documents, notes on drawings, and submissions required under the Contract, will be in the English language. Unless otherwise specified in the Contract, the US System of Measurements shall be used for quantity measurement. All instrumentation and equipment will be calibrated in US System of Measures.

2.13.11. MEETINGS AND PUBLIC HEARINGS

The Company will, upon request by JEA, attend all meetings and public hearings as required, in any capacity, as directed by JEA.

2.13.12. NEGOTIATED CONTRACT

Except as otherwise expressly provided, all provisions of this Contract shall be binding upon and shall inure to the benefit of the parties, their legal representatives, successors and assigns. The parties agree that they have had meaningful discussion and negotiation of the provisions, terms and conditions contained in this Contract. Therefore, doubtful or ambiguous provisions, if any, contained in the Contract shall not be construed against the party who physically prepared this Contract.

2.13.13. NONEXCLUSIVE

Notwithstanding anything contained herein that may appear to be the contrary, this Contract is "non-exclusive" and JEA reserves the right, in its sole discretion, to retain other companies to perform the Work, and/or JEA may self-perform the Work itself.

2.13.14. REFERENCES

Unless otherwise specified, each reference to a statute, ordinance, law, policy, procedure, process, document, drawing, or other informational material is deemed to be a reference to that item, as amended or supplemented from time to time. All referenced items shall have the enforcement ability as if they are fully incorporated herein.

2.13.15. RIGHT TO AUDIT AND FINANCIAL REPORTING

<u>Accounting System</u>

The Company shall establish and maintain a reasonable accounting system that enables JEA to readily identify the Company’s assets, expenses, cost of goods, and use of funds.

<u>Audited Financial Statements</u>

The Company shall provide to JEA audited financial statements for the most recent fiscal year upon JEA's request, not later than five (5) days after receipt of written request.

<u>Content and Retention of Records</u>

Such records shall include, but not be limited to, accounting records, written policies and procedures; subcontract files (including proposals of successful and unsuccessful bidders, bid recaps, etc.); all paid vouchers including those for out-of-pocket expenses; other reimbursement supported by invoices; ledgers; cancelled checks; deposit slips; bank statements; journals; original estimates; estimating work sheets; contract amendments and change order files; backcharge logs and supporting documentation; insurance documents; payroll documents; timesheets; memoranda; and correspondence. Company shall, at all times during the term of this Contract and for a period of five years after

the completion of this Contract, maintain such records, together with such supporting or underlying documents and materials.

Inspection /Audit of Records

Upon JEA's request, the Company agrees to allow JEA to audit, to examine, and to make copies of or extracts from its financial and operating records (in whatever form they may be kept, whether written, electronic, or other) kept by the Company, its employees, agents, assigns, successors, and subcontractors, for the purpose of determining invoice accuracy, or otherwise assessing compliance with the Contract Documents.

The Company shall at any time requested by JEA, whether during or after completion of this Contract, and at Company's own expense make such records available for inspection and audit (including copies and extracts of records as required) by JEA. Such records shall be made available to JEA during normal business hours at the Company's office or place of business in a workspace suitable for the audit and [subject to a three day written notice/without prior notice]. In the event that no such location is available, then the financial records, together with the supporting or underlying documents and records, shall be made available for audit at a time and location that is convenient for JEA. The Company agrees to have knowledgeable personnel available to answer questions for the auditors during the time they are performing the audit and for a period of two weeks thereafter. Company shall ensure JEA has these rights with Company's employees, agents, assigns, successors, and subcontractors, and the obligations of these rights shall be explicitly included in any subcontracts or agreements formed between the Company and any subcontractors to the extent that those subcontracts or agreements relate to fulfillment of the Company's obligations to JEA.

Cost of Audits

Costs of any audits conducted under the authority of this right to audit and not addressed elsewhere will be borne by JEA unless certain exemption criteria are met. If the audit identifies overpricing or overcharges (of any nature) by the Company to JEA in excess of one-half of one percent (.5%) of the total contract billings, the Company shall reimburse JEA for the total costs of the audit. If the audit discovers substantive findings related to fraud, misrepresentation, or nonperformance, JEA may recoup the costs of the audit work from the Company.

Billing Adjustments and Recoveries

Any billing payment recoveries to JEA that must be made as a result of any such audit or inspection of the Company's invoices and/or records shall be made within a reasonable amount of time (not to exceed 90 days) from presentation of JEA¿s findings to Company.

Failure to Comply

If Company fails to comply with the requirements contained in this clause, the Company may be found to be in breach of the Contract, be subject to debarment or suspension of bidding privileges with JEA, and/or JEA may exercise any other remedies available by law.

2.13.16. SEVERABILITY

In the event that any provision of this Contract is found to be unenforceable under applicable law, the parties agree to replace such provision with a substitute provision that most nearly reflects the original intentions of the parties and is enforceable under applicable law, and the remainder of this Contract shall continue in full force and effect. With regard to any provision in this agreement pertaining to damages, equitable or otherwise, it is the intent of the Parties that under no circumstances shall there be recovery for home office overhead. Any damages claimed shall be proven by discreet accounting of direct project costs and no theoretical formula or industry estimating reference manuals shall be permissible.

2.13.17. SUBCONTRACTING OR ASSIGNING OF CONTRACT

Each party agrees that it shall not subcontract, assign, delegate, or otherwise dispose of the Contract, the duties to be performed under the Contract, or the monies to become due under the Contract without the other party's prior written consent.

The assignment of the Contract will not relieve either of the parties of any of its obligations until such obligations have been assumed in writing by the assignee. If the Contract is assigned by either of the parties, it will be binding upon and will inure to the benefit of the permitted assignee. The Company shall be liable for all acts and omissions of its assignee or its Subcontractor.

In the event the Company obtains JEA approval to use Subcontractors, the Company is obligated to provide Subcontractors possessing the skills, certifications, registrations, licenses, training, tools, demeanor, motivation and attitude to successfully perform the work for which they are subcontracted. The Company is obligated to remove Subcontractors from performing Work under this Contract when the Company recognizes that a Subcontractor is failing to work in a manner consistent with the requirements of this Contract, or when JEA notifies the Company that JEA has determined a Subcontractor is failing to work in a manner consistent with the requirements of this Contract.

2.13.18. SURVIVAL

The obligations of JEA and the Company under this Contract that are not, by the express terms of this Contract, to be performed fully during the Term, shall survive the termination of this Contract.

2.13.19. TIME AND DATE

Unless otherwise specified, references to time of day or date mean the local time or date in Jacksonville, FL. If under this Contract any payment or calculation is to be made, or any other action is to be taken, on or as of a day that is not a regular business day for JEA, that payment or calculation is to be made, and that other action is to be taken, as applicable, on or as of the next day that is a regular business day. Where reference is made to day or days, it means calendar days. Where reference is made to workday, workdays, business day, or business days, it means regular working days for JEA Procurement.

2.13.20. TIME OF ESSENCE

For every material requirement of this Contract, time is of the essence.

2.13.21. WAIVER OF CLAIMS

A delay or omission by JEA to exercise any right or power under this Contract shall not be construed to be a waiver thereof. A waiver by JEA under this Contract shall not be effective unless it is in writing and signed by the party granting the waiver. A waiver by a party of a right under or breach of, this Contract shall not be construed to operate as a waiver of any other or successive rights under, or breaches of, this Contract.

The Company's obligations to perform and complete the Work in accordance with the Contract shall be absolute. None of the following will constitute a waiver of any of JEA's rights under the Contract: approval of payments, including final payment; Certificate of Contract Completion; any use of the Work by JEA; nor any correction of faulty or defective work by JEA.

3. TECHNICAL SPECIFICATIONS/DETAILED SCOPE OF WORK

The Technical Specifications and a Detailed Scope of Work are located in **Appendix A** of this document.

062-17 Appendix A Technical Specifications

4. FORMS

Forms required to be submitted with this solicitation are provided in Appendix B or can be obtained on the JEA website at www.jea.com

TECHNICAL SPECIFICATIONS

50 MVA TRANSFORMERS

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1. SCOPE

The purpose of this specification is to provide oil immersed, three phase, outdoor type, step-down, two-winding transformers with self-contained voltage regulating equipment on the low voltage side, automatic thermostatically controlled forced-air cooling equipment and other accessories, spare parts and appurtenances hereinafter specified.

It is expected that distributed generation, specifically solar photovoltaic, assets will be connected to the low side of this transformer and at times result in a reverse power flow through the transformer. The transformers shall be capable of operating for extended periods, up to 100% of the name plate rating, under reverse power flow conditions while maintaining all specified efficiencies and other parameters.

2. PROJECT ENGINEER

The project engineer and contact person for technical questions and clarifications concerning this specification is:

Barry Marquart
Manager, Electric T&D Standards
JEA
21 West Church Street
Jacksonville, FL 32202-3139
Office – 904-665-7498
E-mail: marqbt@jea.com

3. BIDDERS' PREQUALIFICATIONS

3.1 The bidder must show proof of having manufactured at least ten (10 ea.) similar units in design, voltage class, and MVA rating, in the last five years that were successfully installed and are currently in serviceable condition.

3.2 If the company has not been previously prequalified or has not built a unit for JEA within the last five years, then the shop where the transformers will be manufactured will have to be inspected and approved by JEA staff and/or a representative appointed by JEA prior to a contract being finalized.

3.4 The shop where the transformers are to be manufactured and tested must have been manufacturing transformers continuously for at least five years.

4. GENERAL

4.1. The transformers shall be of the highest commercial quality as to material, workmanship and design. The transformers manufacturers must be pre-approved by JEA.

4.2. The transformer shall be designed, manufactured, and tested in accordance with the current standards of ANSI/IEEE and NEMA, except where specific requirements of these specifications conflict with these standards.

4.3. All materials and equipment shall be new and of first quality.

4.4. The basic specifications are:

4.4.1. 30/40/50 MVA, ONAN/ONAF/ONAF (OA/FA/FA) @ 65° C Rise

4.4.2. Frequency – 60 Hz

4.4.3. Voltages:

4.4.3.1. 230 Delta/27 KV Grounded Wye

4.4.3.2. 138 Delta/27 KV Grounded Wye

4.4.3.3. 138X69 Delta/27 KV Grounded Wye (Double-wound on HV side)

4.4.3.4. 69 Delta/27 KV Grounded Wye

4.4.3.5. 69 Delta/13.2 KV Grounded Wye

4.4.4. Conservator-Diaphragm Type

4.4.5. LV Side LTC - 33 Tap Positions, ±10% - 5/8% (0.625%) Per Tap

4.4.6. HV Side NLTC – 5 Tap Positions ±5% - 2.5% Per Tap

4.4.7. Impedance shall be 9.0% at rated voltage and 30 MVA

5. ELECTRICAL DESIGN

5.1. The transformer, including all core and coil assemblies, shall be power class, round core/coil design and construction.

5.2. All windings shall be of copper and shall be circular.

5.3. The core shall be of high-grade, grain-oriented, silicon steel.

5.4. The maximum flux density shall be limited to **1.8 Tesla at 110%** maximum rated voltage.

5.5. The transformer design shall be adequate to withstand short circuits, with the fault current limited only by the impedance of the transformer itself.

5.6. The regulating winding shall be fully distributed and be electrically independent. The regulating winding shall be placed on a separate winding cylinder with electrically and magnetically balanced windings.

5.7. The insulation on all conductors shall be thermally upgraded cellulose insulating paper.

5.8. The paper insulation shall be applied in single or multiple strips such that a minimum of 30% of the paper surfaces are overlapped to provide for a continuous insulating surface. Sufficient tension shall be maintained on the paper strands to prevent loose wraps.

5.9. The coil clamping rings shall cover the full circumference of the coil cylinder area.

5.10. The core and coil assembly shall be dried using a “vapor-phase” system prior to vacuum filling.

6. SHORT CIRCUIT CAPABILITY

6.1. The transformer shall be designed and manufactured to withstand the mechanical and thermal stresses caused by external short circuits, as defined by the latest revision of **ANSI / IEEE C57.12.00-2010, Section 7**, when connected to an infinite bus on either the high or the low side, and thereby be completely self-protecting for all external faults.

6.2. Evidence of design capability to meet these requirements shall be provided at time of bid evaluation.

7. VOLTS PER HERTZ CAPABILITY

7.1. The manufacturer shall provide the Volts per Hertz (V/Hz) capability curve.

8. RATINGS

8.1. The transformer shall be designed to operate at a frequency of 60 Hz.

8.2. The transformer shall be capable of transforming the minimum MVA rating, as stated in **Paragraph 4.4.1**, continuously, self-cooled at rated voltage and frequency without exceeding an average winding temperature rise of 65 degrees C.

8.3. The transformer shall be equipped with two stages of automatic, thermostatically controlled auxiliary cooling equipment that shall increase its self-cooled MVA rating by 33-1/3% with the first stage of auxiliary cooling equipment and 66-2/3% with both stages of auxiliary cooling equipment in service. The increased capability by forced cooling shall be obtained by **forced air only**. The auxiliary ratings shall be achieved without exceeding an average winding temperature rise of 65° C.

8.4. The impedance of the transformer shall be as stated in **Paragraph 4.4.7** and shall be based on the self-cooled rating and neutral tap voltage position.

8.5. The primary winding voltage shall be as stated in **Paragraph 4.4.3** for each individual transformer.

8.5.1. The primary winding shall be equipped with five (5) de-energized tap changer (DETC) tap positions. Two (2), 2.5% taps, above and two (2), 2.5% taps, below rated voltage shall be provided.

8.5.1.1. This DETC shall be operated manually by means of a handle brought out through the side of the tank at a height convenient to the transformer design.

8.5.1.2. The tap changer handle shall have provision for padlocking in any tap or rated voltage position, and shall provide visible indication of the tap position without unlocking.

8.5.1.3. A metal sign with white background and large red letters cautioning against operating the DETC taps when the transformer is energized shall be provided.

8.5.2. The primary windings shall be Delta connected.

8.5.3. In the case of dual rated voltage primary windings with "series" or "parallel" operating capabilities, the same DETC tap range capabilities as with the single rated high voltage winding shall be provided.

8.5.4. Full rated transformer capacity shall be allowed in each of the winding's DETC tap positions.

8.6. The secondary winding voltage shall be as stated in **Paragraph 4.4.3**, and shall be equipped with automatic on-load tap changer voltage regulating equipment.

8.6.1. The secondary winding shall have full capacity above neutral voltage and reduced capacity below neutral voltage.

8.6.2. The secondary windings shall be Wye connected with the neutral solidly grounded externally.

8.7. The phase-to-neutral voltage of the low voltage winding shall lag by 30 degrees the phase-to-neutral voltage of the high voltage winding.

9. DESIGN REVIEW

9.1. The manufacturer shall, upon request, provide JEA with all the design data, plus **Andersen's format tables**.

9.2. JEA may have a consulting engineer to review the design data provided by the manufacturer.

9.3. At JEA's discretion, JEA may ask the manufacturer to meet in person at a JEA facility to discuss the design of the transformer and any other aspect related to these specifications. JEA may ask the manufacturer to have the design engineer(s) available to discuss the design with JEA and/or JEA's consulting engineer. At JEA's discretion, these meetings may also be held by phone via conference calls.

9.4. Under no circumstance, the manufacturer shall have any authority to change the design agreed upon without consulting with JEA's Project Engineer.

9.5. **The manufacturer shall not start manufacturing the transformer until all the design data has been reviewed by JEA and they receive written authorization to proceed from JEA's Project Engineer**.

9.6 The manufacturer shall submit a production schedule associated with the equipment being provided. Such schedule shall be updated and submitted by the first of each month until completion and delivery of the unit.

10. INSULATION LEVELS

The winding insulation levels shall be as follow:

WINDING INSULATION LEVELS	
Rated Voltage	**Basic Impulse Level (BIL)**
230 KV	825 KV
138 KV	550 KV
69 KV	350 KV

WINDING INSULATION LEVELS – cont'd	
Rated Voltage	**Basic Impulse Level (BIL)**
27 KV	200 KV
13.2KV	110 KV
Neutral	110 KV

Phase-to-phase insulation barriers shall be provided between phases. These barriers shall run the full length of the coils.

11. BUSHINGS

11.1. The bushings shall be paper-oil-capacitor type and conform to the latest revision of **ANSI/IEEE C57.19.01-2000** and to **NEMA** standard arrangement, spacing and nomenclature. In addition, they shall be "Sky Gray" in color (**ANSI-70**). The necessary bushings shall meet the following minimum requirements:

BUSHING INSULATION LEVELS	
Rated Voltage	**Basic Impulse Level (BIL)**
HV – 230 KV	900 KV
HV - 138 KV	650 KV
HV - 69 KV	350 KV
LV - 34.5 KV	200 KV
Neutral – 34.5 KV	200 KV

11.2. All the bushings shall be provided with stud to **NEMA** four (4) hole pad terminal connectors. The connectors shall be Anderson, stud to flat bar, Type HDSF, or approved equal and shall be tin-plated.

11.3. The LV and Neutral bushings shall be identical manufacturer and catalog number.

11.4. The neutral bushing shall be provided with enough 500 MCM insulated copper cable and cable to 4-hole connectors to facilitate grounding the bushing at the base of the transformer. Fasteners shall be provided on the tank side to secure this cable to the tank.

11.5. Each transformer core shall be securely grounded externally on the tank. Each core shall be individually grounded by a connection brought out of the tank through an equipment bushing located on, or near, the top in a gasketed, sealed stainless steel enclosure. Each transformer core shall have its own, dedicated equipment bushing. Disconnection shall not require entrance into the tank. This bushing shall be grounded to a ground pad with 300 MCM insulated copper cable. The core ground cable shall be connected for shipment to allow an insulation resistance test upon arrival.

11.6 Only bushings manufactured by ABB or PCore will be acceptable

12. SURGE ARRESTERS

12.1. Six (6) **polymer station class** surge arresters, three (3) for the protection of the primary windings and three (3) for protection of the secondary windings, shall be provided mounted on the transformer tank or on suitable mounting brackets attached thereto. The primary winding surge arresters shall be mounted such that their line terminals are at the same height as the primary winding bushing line terminals. The secondary winding surge arresters shall be mounted such that their line terminals are at the same height as the secondary winding bushing line terminals.

12.2. Insulated 500 MCM copper cable and all necessary connectors shall be provided to ground the surge arresters to the ground pads at the base of the tank. Three-way or "T" connections must be crimped or cad-welded. Means shall be provided along the tank wall to attach the cables to the tank in a removable fashion. Only one cable shall run down the tank for each set of arresters for grounding.

12.3. The following are the surge arresters voltage characteristics:

KV CLASS	MCOV - KV	DUTY CYCLE - KV
230	144	180
138	84	108
69	42	54
27	17	21
13.2	7.65	9

12.4. The manufacturer shall advise JEA's Project Engineer if suitable insulation coordination and protection cannot be achieved with the arresters given in the table above. In addition, the manufacturer shall supply graphical data, which shows the transformer's design BIL ratings for each winding the arresters are protecting along with the arrester's protection margin characteristics under lightning surge and switching surge conditions.

13. GAUGES AND ACCESSORIES

The transformer shall be equipped with the following accessories:

13.1. A magnetic oil level gauge, MTO Series manufactured by Messko GMBH, shall be mounted on the conservator tank and tilted at 30° to be readable from ground level. It shall have a 6-inch dial and low and high levels alarm contacts

13.2. An oil level gauge, MTO Series manufactured by Messko GMBH, mounted on the main tank and readable from ground level. This gauge is to be used for purposes of filling the transformer only. No alarms or contacts are to be wired to this gauge. A means of covering the gauge, such as a removable blackout face plate, is to be provided for installation after the transformer is filled.

13.3. A top oil temperature indicator, model MT-ST160RM manufactured by Messko GMBH, with alarm contacts and maximum temperature pointer with manual reset shall be provided. It shall be located at an eye-level height for observation and resetting. A capillary tube shall connect this device to the sensing element located in a well near the top oil level. The contacts shall be connected/wired and calibrated as follows:

13.3.1.1st Contact – To activate the alarm circuit at 75° C

13.3.2.2nd Contact – To activate the trip circuit at 100° C

13.4. A winding temperature indicator, MT-ST160WR/RM manufactured by Messko GMBH, shall be located at a convenient eye-level height for observation and resetting. A capillary tube shall connect this device to the sensing element located in a well near the top oil level.

13.4.1. Current from a CT located on the LV winding X1 bushing shall be used to heat a heater coil around the sensing element well which, when added to the temperature of the top oil in the tank, shall provide indication of the simulated winding temperature. The indicator shall include the following:

13.4.1.1. A manually resettable red peak temperature pointer.

13.4.1.2. Four (4) internal switches of which the operating temperatures shall be readily visible by use of adjustable switch setting knobs and pointers located along the dial of the indicator. The switches shall be connected/wired and calibrated as follows:

13.4.1.2.1. 1st Switch - To activate the 1st cooling stage at 50° C

13.4.1.2.2. 2nd Switch – To activate the 2nd cooling stage at 60° C

13.4.1.2.3. 3rd Switch – To activate the alarm circuit at 95° C

13.4.1.2.4. 4th Switch – To activate the trip circuit at 120° C

<u>The gradient shall be calibrated using calculated values during the heat-run tests.</u>

13.5. Two (2) mechanical pressure relief devices, Meskso GmbH MPreC series, with alarm contacts and semaphore.

13.5.1. One (1) shall be mounted on the main tank and one (1) on top of the LTC compartment.

13.5.2. When the main tank capacity exceeds 10,000 gallons, two (2) devices shall be mounted on the main tank.

13.5.3. The pressure relief devices shall be mounted without the use of standpipes.

13.5.4. All pressure relief devices shall be of the oil directed type and connected to piping which, in the case of operation, directs expelled oil to a point near ground level.

13.6. Two (2) Qualitrol 900 Series Rapid Pressure Rise Relays and shut off valves shall be provided in oil space.

13.6.1 One (1) shall be mounted on the main tank and one (1) on the LTC compartment.

13.6.2 The one on the main tank shall be located near the corner of the tank and five feet above the base.

13.6.3 The relay shall be connected without the use of any reduction pipes.

13.7. Separate Qualitrol Series 909 Seal-in Relays shall also be provided. The Seal-in Relays shall be designed for 125 VDC operation and mounted in the transformer control cabinet. A gas detector relay with alarm and trip contacts rated for 125 VDC operation.

13.7.1. Gas detector relays supplied by the Qualitrol or Bucholtz will be acceptable.

13.7.2. Connection between the main tank and the gas detector shall be made from rigid pipe, except for a length of 316 stainless steel tubing not to exceed 18” for connecting to the detector.

13.7.3. The connection between the rigid pipe and the main tank cover shall be as close as possible to the relay.

13.7.4. A shutoff valve shall be provided to allow removal of the gas detector relay without lowering the oil level.

13.7.5. The use of dresser couplings for rigid pipe connections is not acceptable.

13.7.6. Test and sampling valves shall be located at a working height of approximately 5’ from the base of the transformer.

13.8. A SEL-2414 Transformer Monitor Relay, Schweitzer Engineering Laboratories P/N 241421A1A3A3A3A1031, shall be installed in the transformer cabinet at a convenient eye-level height for observation and access.

13.8.1. Transformer alarms shall be wired to the inputs for indication purposes.

13.8.1.1. Each alarm will be wired to a trip isolation switch, ABB P/N FRXG001001001, as follows (See Appendix for drawings):

13.8.1.1.1. One switch will be on the DC wetting side of the alarm.

13.8.1.1.2. Second switch will be before the alrm goes to the SEL-2414 input.

13.8.1.1.3. Third switch will be on the return side of the SEL-2414 input to successfully isolate hte relay.

13.8.1.2. Three sets of the ABB test switches in 13.8.1.1 will be installed in the transformer cabinet at a convenient eye-level height for observation and testing.

13.8.2. JEA shall provide relay settings to the transformer manufacturer to download into hte SEL-2414 relay.

13.8.2.1. For confirmation purposes, the transformer manufacturer will provide a settings test report after downloading the settings into the relay.

13.8.3. A seperate panduit/punch out shall be provdied in the transformer cabinet in order to accomodate a JEA supplied fiber optic cable to the SEL-2414.

13.8.3.1. For the fiber optic panduit, the transformer manufacturer is to install in a location that allows for the minimum number of bends.

13.8.4. Nameplates for the SEL-2414 and test switches shall be provided. Each test switch nameplate nomenclature shall describe the assocaited transformer alarm or relay input it is wired to. See appendix for further details.

13.8.5. The output contacts for the SEL-2414 shall be wired to spare terminal blocks inside the transformer cabinet.

14. BUSHING CURRENT TRANSFORMERS

The bushing current transformers shall conform to the latest revisions of **ANSI/IEEE C57.13-2008 and C57.19.01-2000** for bushings' dimensions that will adequately accommodate the maximum "D" dimensions for the subject bushings, as shown in the applicable tables. In addition, they shall be five-terminal, relay accuracy, multi-ratio type and shall be provided as shown in the table below:

BUSHING TERMINALS	AMPERE RATIO	ACCURACY CLASS
H1-H2-H3	2000/5	C800
H1-H2-H3	1200/5	C800
H1-H2-H3	600/5	C800
X1-X2-X3	1200/5	C800
X1-X2-X3	1200/5	C800
X0	1200/5	C800

14.1. The high voltage winding CTs shall be arranged so that the highest ratio is placed closest to the winding end of the bushings.

14.2. All secondary leads shall be connected to conveniently mount shorting type terminal blocks in the control cabinet.

14.3. Polarity marks on bushing CTs shall be toward external bushing terminals.

14.4. The transformer shall also be provided with the following additional bushing CTs:

14.4.1. One (1) current transformer for the winding temperature indicator located in phase "A" (X1) of the low voltage winding, as described in **Paragraph 13.4.1**.

14.4.2. One (1) current transformer for the load drop compensation circuit (LDC) of the voltage regulating equipment located in phase B (X2) of the low voltage winding.

15. CONTROL CABINET

15.1. All terminals for remote control wiring and LTC control equipment shall be located in a suitable control cabinet.

15.2. The cabinet shall be furnished with a removable 8 gauge aluminum conduit plate in the bottom.

15.3. The cabinet shall be weather-tight.

15.4. It shall be equipped with a lamp socket with switch activated by the door and a duplex grounding type 120 VAC receptacle.

15.5. 120/240 VAC automatically controlled space heaters are to be provided to prevent condensation and keep the components in the cabinet dry.

15.5.1. The heaters shall be provided with guards.

15.5.2. Ventilating holes shall be provided to permit proper air circulation.

15.5.3. A magnetic circuit breaker shall be provided for the heaters' circuit.

15.5.3.1. Fuses are not acceptable for the heaters' circuit.

15.6 Where fuse blocks are required, they shall be modular type with bakelite frame and reinforced retaining clips.

15.7. The control cabinet doors shall have provisions for securing them in the open position. Doors shall be hinged and have heavy-duty handle-type latch. Hinged panels with controls mounted on them shall be provided with suitable stops. All hinges to be shall be 316 stainless steel.

15.8. All welds on the exterior of the cabinet are to be full welds. Spot, tack or skip welds are not acceptable for attaching hinges, brackets, etc. Designs, which minimize pockets and crevices where corrosion may occur are preferred.

15.9. The cabinet interior shall be finished in bright white or equal. The white coat shall be applied over the standard primer coat as described in **Paragraph 22.2**. The cabinet exterior shall match that of the main tank.

16. WIRING

16.1. The control and auxiliary power circuits for the transformer shall be completely wired. All circuits for external connections shall be brought to terminal blocks in the control cabinet.

16.2. Terminal blocks shall be furnished with white marking strips. Twenty (20) percent of terminals on each terminal block shall be allocated as spares for circuit modifications and for termination of all conductors in a multi-conductor control cable.

16.3. Splices will not be acceptable.

16.4. Protective overcurrent devices shall be provided in accordance with industry's good practices.

16.5. All control wiring shall be fitted with solderless, uninsulated, ring-type compression terminals. Control wiring terminal boards shall be barrier type and accommodate solderless, uninsulated, ring-type compression connectors.

16.6. There shall be no more than two (2) conductor terminals per terminal strip pole. Nor shall there be more than two (2) conductor terminations per relay or component terminal point.

16.7. Each set of current transformer secondary leads shall be brought to shorting-type terminal blocks in the control cabinet with ring-type compression connectors.

16.8. JEA will provide auxiliary power supply, three-phase, four-wire, 60 Hz source to terminals in the control cabinet to operate the forced cooling equipment, tap changer motor drive, heaters and any other low voltage AC requirements. The manufacturer shall furnish a terminal block for termination of at least four (4) #4 AWG, 600 VAC-type RHW cables. This terminal block shall be clearly labeled as the terminal connection of the input three-phase AC source. No load shall be connected to this terminal connection. The high leg of the connection is the 208 VAC phase-to-ground associated with 120/240 VAC, three-phase, four-wire Delta connected station service transformer shall be clearly label as to its termination point.

16.9. Terminal blocks for external connections shall be clearly labeled to indicate the function of the connections. Drawings for the cabinet shall be labeled similarly.

16.10. An under voltage relay (Device 27) shall be provided with an auxiliary timer (delay on pickup) to provide alarms for loss of AC auxiliary power to the LTC and cooling equipment. The timer shall be used to eliminate alarms due to momentary interruptions of AC power.

16.11. The "off-tap" alarm wiring shall also include an auxiliary timer to eliminate alarms due to momentary "off-position" states during the operation of the tap changer.

17. TAP CHANGING EQUIPMENT

17.1. The load tap changer shall vary the low voltage terminal voltage with a constant voltage on the high voltage terminal.

17.2. If the tap changing system requires a series or a booster winding, the design shall be of a power class, round core/coil design and construction, and all windings shall be copper and shall be circular.

17.3. The load tap changer contacts shall be located in an oil-filled compartment separated from the main tank. The load tap changing compartment shall be designed with a continuous lip across the bottom front, at the opening, to prevent residual oil from spilling out upon opening of the compartment door. The compartment door shall provide easy access to the equipment for maintenance and inspection.

17.4. A 3/8" sampling valve shall be provided on the LTC enclosure with pipe cap on the open end.

17.5. The barrier separating the load tap changer from the transformer main tank shall be able to withstand full vacuum from either direction. If full vacuum withstand is not possible, piping and a valve to allow for equalization between the load tap changer and main tank shall be installed. A metal sign with white background and large red letters shall be installed on the side of the main tank near the valve stating that the valve shall be open prior to vacuum and closed for normal operation.

17.6. The cover on the oil-filled compartment shall be hinged to support itself when open, regardless of the weight of the cover.

17.7. The load tap changing equipment housing shall be provided with a Messko GmbH type DB100RM maintenance free dehydrating breather to prevent the buildup of pressure and condensation within the housing, as appropriate for the particular tap changer being used.

17.8. A Filmax (Model LT105-B1-2ABS-75N-B) LTC oil filtration system shall be provided (not applicable for vacuum-interrupter type LTCs).

17.9. A mechanical position indicator visible from outside the equipment shall be provided.

17.9.1. The position indicator shall be calibrated L - N - R – i.e. Lower – Neutral – Raise - from the left end to the right end of the scale.

17.9.2. The position indicator shall be located so that it will be visible to an operator at the control switch for the drive motor and located at eye-level.

17.9.3. The position indicator shall be mechanically driven directly from the drive mechanism without auxiliary devices.

17.10. A hand crank for manual operation of the drive mechanism shall be provided.

17.10.1. The hand crank shall be removable and stored in the cabinet housing of the mechanism.

17.10.2. An electrical interlock switch shall be provided to prevent electrical operation of the LTC mechanism while the hand crank is operated.

17.11. A dead-front operating panel shall be provided whereby the gears and mechanism are covered to provide safety for the operator.

17.12. A stainless steel nameplate shall be permanently mounted on the outside of the control cabinet housing the manual raise and lower controls, which shall reads "**LOAD TAP CHANGER**". An additional nameplate shall be mounted inside the cabinet, next to the raise and lower controls which shall reads "**LOAD TAP CHANGER - FOR OPERATION WITH TRANSFORMER ENERGIZED AND CARRYING LOAD**". These nameplates are to be shown on the outline drawing. These nameplates shall also indicate the vacuum capability of the barrier and the manufacturer's model number of the LTC.

17.13. The low voltage winding shall be provided with tap changing under load equipment, which shall connected to and regulate the low voltage winding.

17.13.1. The tap changer shall have full rated MVA on taps above neutral and a current rating corresponding to the full load current of rated voltage on taps below neutral voltage.

17.13.2. This equipment shall be capable of $\pm$ 10% voltage regulation in 32 - 5/8% (0.625%) steps at full capacity above neutral and reduced capacity below neutral voltage.

17.13.3. The nomenclature for the various positions shall be 1 through 16 above, neutral and 1 through 16 below neutral voltage. Use of 1 through 33 with 17 as the neutral position is not acceptable.

17.13.4. The current rating of the tap-changing equipment shall be based on the maximum force-cooled rating of the transformer.

17.14. Completely automatic, self-contained control equipment shall be mounted in the control cabinet at an accessible height for a person standing on the transformer foundation. The control equipment shall include the following items:

17.14.1. JEA will install one (1) tap changer control relay, Beckwith Electric Co. M-2001C, to initiate operation of the tap changer in the raise or lower direction as required. The tap changer control relay will be installed in a JEA installed relay control panel inside the control house. The control cabinet shall be designed to accommodate JEA connection to this tap changer.

17.14.2. Adjustable delay equipment for imposing a time delay between the closing of the voltage regulating relay contacts and the response of the tap changing mechanism. The time delay and adjustment shall have a minimum range of five seconds. The equipment shall be so connected that in the event that more than one tap change is required to restore the voltage to the required level, the time delay may be imposed on the first tap change only (Sequential operation).

17.14.3. One control switch for selecting either automatic or manual operation, with the control so interlocked that manual and automatic control cannot be provided simultaneously, three position, "AUTOMATIC", "OFF", "MANUAL", General Electric Co. type SB-1 or equal.

17.14.4. One control switch to manually operate the tap changer in either the raise or lower direction, General Electric Co. type SB-1 or equal.

17.14.5. One control switch for selecting either local or remote control of the load tap changer, General Electric Co. type SB-1 or equal.

17.14.6. A motor control relay with the two sides mechanically interlocked to prevent any possibility of energizing both windings of the motor simultaneously.

17.14.7. An operation counter to record the number of tap changing operations.

17.14.8. High and low limit contacts for remote alarm (dry “a” contacts).

17.14.9. Off - position contacts for remote alarm.

17.14.10. One LTC control back-up relay to prevent a failure of the voltage control from running the voltage to a high or low limit, complete with time delay, and alarm contacts. Beckwith Electric Company, Inc. Model # M-0329. The back-up relay shall be set for a 120 Vrms band center and 1 Vrms fixed dead band. (Note: The input potential to this relay will be provided independent of the regulating input potential to the Series 2000 regulating relay).

17.15. The transformer shall have provisions for remote operation and indication of the load tap changer equipment. The following equipment or provisions shall be provided for remote operation and indication of the load tap changing equipment:

17.15.1. The power transformer control cabinet shall be designed in order to accommodate a connection to JEA installed synchro transmitter (Incon model #1292) and a programmable position monitor (Incon model #1250B). These devices will be provided/installed by JEA in the relay control panel located in the control house.

17.15.2. Wiring provisions shall be provided in the control cabinet for remote connections to a control switch, or switches, for selecting automatic or manual control of the tap changing mechanism and for manual operation of the tap changing mechanism.

17.15.3. Wiring provisions shall be provided in the control cabinet for remote connections to indicating lamps; red to indicate tap-changing mechanism in the "OFF" position and white to indicate a loss of control voltage.

17.16. The only acceptable LTC's are the Reinhausen RMV II and the Waukesha UZD.

18. OIL PRESERVATION EQUIPMENT

18.1. The oil preservation system shall be conservator type with a sealed bladder (Atmoseal system or equivalent), as per the latest revision of **ANSI/IEEE C57.12.80-2010, Section 6.5.5**.

18.2. All gaskets are to be below minimum oil level.

18.3. Bladders are to be fully pressure tested before installation in the conservator tank.

18.4. A gate or globe valve suitable for full vacuum shall be placed at both the transformer tank and at the conservator tank.

18.4.1.A braided stainless steel flexible connection shall be provided to eliminate potential alignment problems.

18.5. The conservator tank shall be provided with a Messko GmbH MTraB DB200RM-T series maintenance free dehydrating breather and bleeder valve.

18.5.1.The silica gel breather shall be mounted 5' above transformer base for easy access.

18.5.2.The power supply of the breather shall be protected by a 15A circuit breaker.

18.6. The conservator tank shall be provided with at least two (2) inspection openings, one in each end of the tank, to allow easy inspection and or replacement of the air cell.

18.7. The conservator tank is to be located such that all parts on the cover of the main tank, including bushing casing, gas detector relay and mechanical pressure relief devices, can be completely filled with oil at the minimum oil level in the conservator tank.

18.8. The conservator tank shall be capable to operate at an ambient temperature range of -10 degrees to 40 degrees Centigrade.

18.9. The conservator tank shall be sized to permit continuous 120 degrees C top oil temperature operation without oil discharge.

18.10. The conservator tank shall be located on Segment 2 or Segment 4.

19. COOLING EQUIPMENT

19.1. The following types of radiator construction are allowed:

19.1.1.Tube and header construction

19.1.2.Plate (pancake) construction

19.2. The above-mentioned radiators shall be constructed from one of the following materials:

19.2.1.Steel header pipes with copper tubes

19.2.2.Steel header pipes with cold rolled steel plates

19.3. Radiators shall be provided with drain plugs and a vent plug located on top. All plugs shall be made of mechanical brass.

19.4. Complete outline dimensional drawings for the radiators are to be provided, including pipe headers, valve sizes and bolt patterns. The drawings shall be in adequate detail to allow manufacture of replacement radiators by an independent vendor.

19.5. The exterior of the radiators shall be protected from corrosion by a duplex-system consisting of hot dip galvanizing then painted according to ISO 12944 Environment C4. Paint shall be applied via flow coating method.

19.6. Radiators shall be filled with positive nitrogen pressure for shipping and short-term storage.

19.7. Packaging of radiators shall be performed to protect them from paint scratches due to packaging materials and handling.

19.8. Fan motors:

19.8.1. The fan motors should have permanently sealed and lubricated ball bearings.

19.8.2. The fan motors shall be supported from the transformer tank.

19.8.2.1. Mounting the fan motors directly to the radiators is not acceptable.

19.8.2.2. Fans shall be vertically mounted. Fans hung under the radiators are not acceptable.

19.8.3. Fan blades shall be of cast, all aluminum construction and fan guards, shrouds, plenums or venturis shall be hot dipped galvanized.

19.8.4. The fan motors, plugs and cords shall be manufactured by Krenz & Company.

19.9. Radiator valves:

19.9.1. The radiator valves shall be pressure seal type butterfly or flapper valve type.

19.9.2. Outline drawings of the radiator valves shall be submitted for approval.

19.9.3. Radiators valves shall be welded to the transformer tank in both upper and lower header pipe connection points.

19.9.4. The radiators shall connect to the valves by a bolted connection.

20. TANK CONSTRUCTION

20.1. The transformer tank shall be of steel plate construction, electrically welded and braced, oil tight and suitable for skidding into position and filling under **full vacuum** with a minimum of visually detectable tank deformation.

20.2. Lifting lugs and jacking pads shall be provided on the tank for lifting or jacking and skidding the transformer onto transport vehicles and into place as necessary. The lifting lugs shall be free from sharp edges. Facilities for guying the transformer shall be provided.

20.3. Center of gravity marks, 2”-3” in diameter, shall be stamped on the side and end of the tank.

20.4. The center line of the transformer tank shall be clearly identified at the base of all four (4) sides.

20.5. The transformer shall be provided with the following valves and fittings:

20.5.1. One (1) 2” globe-type valve, filter press and drain, complete with 3/8” sample device, located at one of the bottom corners of the main tank.

20.5.1.1. The sample device shall be located beyond the valve seat from the tank.

20.5.1.2. Three horizontal marks (+++) shall be stamped on the tank directly above this valve at the oil level required to cover the core and coils assembly.

20.5.1.3. The valve shall provide for drainage of the oil to within 1” of the bottom of the tank.

20.5.2. One (1) 2” globe-type valve located at one of the top corners of the main tank, diagonally and opposite to the valve described in **Paragraph 20.5.1**, 6” below the top cover of the main tank.

20.5.3. One (1) 1” globe-type drain valve for the conservator tank.

20.5.4. One (1) 1” globe-type valve located on the top of the conservator tank, opposite to the valve described on

Paragraph 20.5.3.

20.5.5. One (1) 4" ¼ turn ball valve vacuum connection, threaded and capped, located on the top cover, at least 18" from the edge of the main tank, diagonally and opposite to the valve described in **Paragraph 20.5.2**.

20.5.6. One (1) 1" fitting, with valve, located on top of the tank on the opposite end from the vacuum connection, at least 12" from the edge of the main tank, to be used for vacuum monitoring device.

20.5.7. Two (2) 1" fittings, with valves, both located on the same tank wall, one located 6" from the top of the tank and one located 6" above the bottom of the tank and in direct line with the one on the top.

20.5.8. One (1) 1" globe-type drain valve for the LTC tank.

20.5.9. One (1) 1" globe-type valve located on the top of the LTC tank, opposite to the valve described on **Paragraph 20.5.8**.

20.5.10. All valves, sampling devices and fittings shall be provided with pipe plugs or caps in the open ends.

20.6. The transformer cover shall be of a domed or shed type design with a continuous upward slope to the gas accumulator fittings to insure proper gas detection system operation.

20.7. A minimum of two (2) circular manholes, with bolted covers, shall be provided in the cover for entering the transformer.

20.7.1. The manholes shall have a minimum diameter of 24" and be provided with lifting eyes or handles, and shall be located such that they are accessible without the removal of any other equipment.

20.8. A minimum of two (2) circular manholes, with bolted covers, shall be provided on the side near the base for entering the transformer.

20.8.1. The manholes shall have a minimum diameter of 24" and be provided with lifting eyes or handles, and shall be located such that they are accessible without the removal of any other equipment

20.9. Three (3) copper-faced or stainless steel grounding pads with tapped holes, and three (3) clamp type connectors for 4/0 - 500 MCM copper cable range connectors shall be provided for grounding purposes.

20.9.1. Two (2) ground pads shall be located near the base, on opposite corners, on the sides of the tank.

20.9.2. One (1) ground pad shall be located near the core ground bushing.

20.9.3. **Mounting of ground pads directly beneath radiators is not acceptable.**

20.10. The "B" phase of the high and low voltage bushings shall have the same centerline as the transformer tank.

20.11. High and low voltage bushings and lightning arresters shall be placed or positioned so that full ANSI BIL levels are maintained for both phase-to-phase and phase-to-ground rated voltages for the unit, as a minimum.

20.12. The bottom of the transformer tank shall be separated from the foundation on which it operates by use of a structure type base or separate 10"-12" galvanized I-beam type supports running the full length of the tank. Complete dimensional data shall be furnished with the outline drawings to show the exact footprint of the base that will sit on the foundation. Structure type bases shall receive an asphaltic or similar corrosion resistant coating.

20.13. 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. Welds and seams on corners are not allowed.

20.14. Two (2) Unique Concepts Ltd. Portable Fall-Arrest Weld-On Plates (Model: 10816, drawings provided) shall be welded to the tank cover, one near the Segment 2 tank cover edge and one near the Segment 4 tank cover edge.

20.15. The transformer cover shall have a non-skid, slip resistant coating

20.16 All conduits shall be supported by 1/4" x 2" x 2" steel angle and/or steel hardware.

20.17. **The shipping height of the transformer shall not exceed 14'-0"**.

20.18 Oval tank designs are not permitted.

21. INSULATING OIL

21.1. The insulating oil shall be new, oxidation inhibited **Type II** mineral transformer oil, as per the latest revisions of **ASTM D 3487-16 (2016)** and **ANSI / IEEE C57.106-2015**.

21.1.1.The only acceptable oxidation inhibitors are:

21.1.1.1.2,6-ditertiary-butyl para-cresol

21.1.1.2.2,6-ditertiary-butyl phenol

21.1.2.The oxidation inhibitor content shall be not more than **0.3%** by mass, as determine by the latest revisions of **ASTM D 1473** or **D 2668**.

Note: As per the latest revision of **ASTM D 3487-16 (2016), Footnote H**, Test Method **D 2668** can be used for either inhibitors mentioned in **Paragraphs 20.1.1.1 & 20.1.1.2**. Test Method **D 1473** can only be used for inhibitor mentioned in **Paragraph 21.1.1.1**.

21.2. The oil shall be delivered in tank trucks upon notification by JEA's Project Engineer.

21.2.1.The oil delivery tank trucks shall be of the common manifold type to allow oil-filling procedures without changing hose connections.

21.2.2.The hose connection valve shall be sealed to insure that all oil shipped is received at the site.

21.3. The manufacturer shall provide a written certification and test report that the transformer oil fully comply with the latest revision of **ASTM D 3487-16 (2016)** and the criteria outlined in **Table 1 (Property Requirements)**.

21.4. JEA will perform the following tests at site arrival and before accepting the oil and failure of any of these tests shall be grounds for refusal of the oil shipment and a new shipment immediately required:

21.4.1.Dielectric Breakdown Strength – 30 KV minimum, as per the latest revision of **ASTM D 877-87 (1995)**.

21.4.2.Power factor - 0.05% or less at 25 degrees C, as per the latest revision of **ASTM D 924-99e1**.

21.5. The delivered transformer oil and oil used at the factory shall be non-PCB oil. The manufacturer shall certify on the transformer test report that all oil used in processing and testing the transformer had a **"not detectable"** content of polychlorinated biphenyl as determined by test method the latest revision of **ASTM D4059-96**.

22. PAINT

22.1. The external surface of the tank, cover and bottom shall be prepped per SSPC-SP1 using Carboline Surface Cleaner #3 to remove grease, chlorides, and sulfides. Test the surface with Chlor Test Strips to ensure a clean surface. Then clean the surface per SSPC-SP6 Commercial blast cleaning to properly treat to remove all corrosion and provide a bare metal surface for painting.

22.2. Carboline paints are preferred.

22.3. The radiators shall be flow-coated painted.

22.4. Epoxy paints and polyester powder are not acceptable on the radiators due to the inability to chemically strip these finishes.

22.5. If Carboline paint products are used on the radiators, the following Alkyd paints shall be used:

22.5.1.Primer Coat - Carboline Carbocoat 2900 Primer - 0500 (Red), 2 mils.

22.5.2.Body Coat - Carboline Carbocoat 2900-0600 (Yellow), 2 mils.

22.5.3.Finish Coat - Carboline Carbocoat 30-R (Edison Gray ASA-70) Silicon Alkyd, 2-3 mils.

22.6. The inside of the tank shall be painted white color.

22.7. If Carboline paint products are used, the transformer tanks and all structural surfaces shall be painted with the following:

22.7.1.Prime Coat – Carbomastic 615 Aluminum at 5.0 to 10.0 mils dft.

22.7.2.Stripe Coat all bolts and edges – Carbomastic 615 Gray ay 4.0 to 8.0 mils dft.

22.7.3.Finish Coat – Carbothane 134 HG ASA 70 Edison Gray at 2.0 to 3.0 mils dft.

22.8. Any proposed variation from the paint specification above shall be approved by JEA's Project Engineer prior to submittal of bid or rejection of bid may be possible. Please complete and submit the table in the appendix.

23. NAMEPLATE

23.1. A nameplate shall be provided and mounted on or near the control cabinet.

23.2. The nameplate shall be fabricated from stainless steel and attached with stainless steel hardware.

23.3. The nameplate shall be as per the latest revision of **ANSI/IEEE C57.12.00-2010, Paragraph 5.12**.

23.4. The following additional information shall be stated on the nameplate:

23.4.1.Current values for the maximum 65 degree C MVA rating for all tap positions.

23.4.2.All current transformers including polarity marks, **ANSI/IEEE** tap identification and relay accuracy.

23.4.3.All applicable weights including shipping.

23.4.4.Date of manufacture.

24. FACTORY TESTS

24.1. The tests shall include, but not be limited to, all of the routine tests as described in the latest revision of **ANSI/IEEE C57.12.00-2010, Section 8** and has defined in the latest revision of **ANSI/IEEE C57.12.80-2010, Section 5**.

24.2. The following tests shall be performed on all transformers in accordance with methods outlined in the latest revision of **ANSI/IEEE C57.12.90-2015, Part I**:

24.2.1.Resistance Measurements **(Clause 5)**

24.2.2.Polarity and Phase-Relation **(Clause 6)**

24.2.3.Ratio **(Clause 7)**

24.2.4.No-load Losses and Excitation Current **(Clause 8)**

24.2.5.Impedance and Load Losses **(Clause 9)**

24.2.5.1. The resistve component (R) of hte Impedance and the reactive component (X) of the Impendance shall be provided. (R+Xj)

24.2.6.Dielectric Tests:

24.2.6.1. Standard series of full wave and chopped wave impulse tests on both the high voltage and low voltage windings **(Clause 10.3)**

24.2.6.2. Applied Voltage **(Clause 10.6)**

24.2.6.3. Induced Voltage (Clause 10.8 - last dielectric test to be performed)

24.2.6.3.1. Partial discharge measurements shall be made and reported every five minutes during the induced voltage test. Test procedure and partial discharge measurement shall be in accordance with **Clause 10.9.**

24.3. Insulation power factor, as determined by **Doble Method II**. Results shall include separate values for CH, CL, and CHL. These values are not to be combined, and a value more than 0.40%, corrected to 20 degrees C, will not be acceptable. Values above this shall be reported to the project engineer.

24.4. Core Ground Test **(Section 10.11)**

24.5. Gas Chromatography Test showing any combustible gasses present, in ppm, as a result of testing as per the latest revision of **ANSI/IEEE C57.104.2008**.

24.6. Temperature rise test, in accordance with **Clause 11 (first transformer design)**

24.6.1. **Oil samples shall be taken for DGA before any test is done and after the last test. In addition, oil samples shall be taken before the start of the temperature rise test and every 6 hours, until the end of the test**.

24.7. Audible sound test, in accordance with **Clause 13 (first transformer design)**

24.8. Sweep Frequency Response Analysis

24.8.1. The Doble Sweep Frequency Response Analyzer shall be used to perform this test.

24.8.2. The frequency sweep shall cover the frequency range from 20 Hz. to 2 MHz.

24.8.3. The test shall be performed twice, once with the transformer fully assembled and once with the transformer in its shipping configuration. In the shipping configuration, the bushing leads shall be secured and electrically connected to core ground bushings installed in the bushing shipping covers so that test connections can be made without opening the transformer and disturbing the leads. The bushings shall be mechanically protected during shipping. The mechanical protection shall be designed not allow release of the shipping gas when removed.

24.8.4. SFRA tests shall be performed on LTC tap 16 Raised and DETC tap 3 and shall remain on these taps for shipping.

23.8.4 The software generated test file shall be received by the project manager prior to shipping.

24.9. Gas detector system test, in accordance with the following procedure:

24.9.1 A gas sample of 500 cc of dry nitrogen is to be introduced rapidly (within 5 seconds) into an opening on the opposite corner of the tank from the relay, at ground level. The gas detector relay must be activated within 5 minutes in order to pass the test.

24.10. The transformer shall be completely assembled throughout the duration of testing to assure the fit of all components and that adequate electrical clearances have been achieved.

24.11. JEA's Project Engineer shall be notified at least four (4) weeks prior to tanking the core and coil assembly and testing to arrange travel requirements to inspect the unit and to witness final tests.

24.12. Any deficiencies or failures during final testing shall be thoroughly reported, in writing, to the project engineer prior to re-testing.

24.13. The manufacturer shall furnish three (3) certified copies of test data taken on all tests performed on the transformer. Test reports shall be received by the Project Engineer before shipment of the transformer.

24.14. All current transformers shall be tested as per the latest revision of **ANSI/IEEE C57.13-2016, Clauses 6.11 & 8.**

24.14.1. CT curves shall be furnished for all CTs and will be used for relaying applications.

24.15 An electronic copy of the Doble test file, with all fields applicable to the above mentioned tests filled completely, shall be received by the Project Engineer prior shipping of the transformer.

25. LOSS GUARANTEE

25.1. The losses quoted on the proposal form - i.e. No-Load, Load, and Auxiliary, shall be considered guaranteed maximum values. **The values quoted will be compared to the actual test values to determine conformance.**

25.2. If the test values exceed the quoted values, then a credit shall be due to JEA in accordance with the following:

25.2.1.No load losses - $5,000/kW

25.2.2.Load losses at 50 MVA - $1,000/kW

25.2.3.Auxiliary Losses - $500/kW

25.3. The measurements shall be made under the following conditions and as per the latest revision of **ANSI/IEEE C57.12.00-2010, Section 5.9**:

25.3.1.No-Load Losses shall be measured and corrected to an ambient temperature of 20 degrees C.

25.3.2.Load Losses shall be measured at ambient and corrected to 85˚C, 50 MVA.

25.3.3.Auxiliary Losses shall be measured and corrected to an ambient temperature of 20 degrees C, 50 MVA.

26. LOSS EVALUATION

26.1. For the purpose of determining the best bid, all transformer losses shall be measured at rated voltage, frequency and at 50 MVA. An amount in dollars shall be added to the quoted price based on the following factors:

26.2. The loss measurement system used to measure losses shall be tested for accuracy by an independent agency.

26.2.1 A certified measurement error report shall be made available to the Project Engineer before the bid opening.

26.2.2 Testing of measurement systems shall follow the procedure described in **NBS Technical Note 1204**.

26.2.3 The test system accuracy for each quantity measured shall fall within the limits specified in the latest revision of **ANSI/IEEE C57.12.00-2010, Section 9.4, Table 20**.

26.2.4 The frequency of the test source shall be within **±0.5%** of the rated frequency of the transformer.

26.3. In the event that the certified test report called for in **Paragraph 24.13** shows that the transformer losses at rated voltage and frequency exceed the guaranteed losses stated in the proposal data, the manufacturer shall credit JEA the difference between the certified losses and the guaranteed losses in accordance with **Paragraph 25.2**.

27. DRAWINGS

27.1. Drawings shall be submitted to the Project Engineer for approval before manufacturing of equipment.

27.2. Drawings shall meet ANSI/IEEE standards. The only language to be used on drawings is English.

27.3. Each drawing shall include the JEA purchase order number and the name of the JEA substation that the equipment is designed to operate.

27.4. Three (3) sets of approval drawings for the transformer shall be submitted and shall include the following:

27.4.1. Transformer outline drawings showing physical dimensions, weights, center of gravity, and location of all accessories, including a detailed list of all accessories.

27.4.2. Nameplate drawing.

27.4.3. All schematic and wiring diagrams.

27.4.3.1. Tabular type wiring drawing will not be acceptable.

27.4.4 Internal layout drawing.

27.4.5. These drawings shall locate each piece of equipment and terminal blocks, and indicate individual wiring between each item.

27.4.6. All above-mentioned drawings shall be 24" X 36" dimension.

27.4.7. CT excitation curves.

27.4.8. Original equipment manufacturer drawings and catalog/part numbers for equipment as follows:

27.4.8.1. HV, LV, N, and core ground bushings

27.4.8.2. High and low voltage surge arresters

27.4.8.3. All gauges

27.4.8.4. Gas detector relay

27.4.8.5. Switches

27.5. The manufacturer shall furnish color photographs of good commercial quality, 8.5" X 11", of the core and coil assembly in its most complete condition just before tanking. The views shall include each side, top, and each end. These photographs shall be included in the instruction books.

27.6. The manufacturer shall furnish the Project Engineer with a complete list of all items, which will be sent on each shipment, i.e. number of boxes, bundles, pieces, etc. and the contents of each. This list shall be received by the project engineer prior to shipment from the factory. The manufacturer will be notified of any items not received at time of delivery.

27.7. All final drawings shall be submitted in 24" x 36" hard copies and a flash drive containing Intergraph CAD system (Microstation SE) **and** PDF format.

28. INSTRUCTION BOOKS

28.1. The manufacturer shall provide four (4) instruction books. All information shall be in English.

28.2. These instruction books shall contain information on receiving, storing, assembly and maintenance of the transformer and its components.

28.3 The instruction books shall be assembled and bound in a three-ring binder with removable cover and edge sheets.

28.4. The instruction books shall be high quality original documents.

28.4.1. **Photocopies will not be accepted.**

28.5. A complete set of final drawings shall be included in a pocket-type page in the back of the instruction books.

28.6. The OEM drawings shall be 24" X 36" drawings and included in the instruction books.

28.7 The face sheet of each instruction book is to be identified with the serial number and JEA purchase order number. The job order number **is not** an acceptable substitute for the serial number.

28.8 A complete set of photographs of the core and coil assembly, taken just prior to placing the completed core and coil assembly into the tank, shall be furnished with each instruction book/construction manual. All photographs shall be 8-1/2 inch by 11 inch gloss prints properly labeled as to the views taken. Five different views shall be provided as follows:

28.8.1 Top view

28.8.2 Front view

28.8.3 Left side view

28.8.4 Rear view

28.8.5 Right side view

28.9 A complete set of photographs of the core and coil assembly, taken just prior to placing the tank cover onto the tank, shall be furnished with each instruction book. All photographs shall be 8-1/2 inch by 11 inch gloss prints. The photographs shall be taken in such a manner that it is clear how much space is available between the core and coil assembly and the tank walls and cover.

28.10 The instruction books shall include but not be limited to the following:

28.10.1 Table of contents and index tabs

28.10.2 Specifications, test data and curves

28.10.3 A copy of the factory test report

28.10.4 Description of the equipment

28.10.5 Operating Instructions

28.10.6 Instructions in the methods of receiving, inspection, storage and handling

28.10.7 Complete installation and maintenance instructions

28.10.8 Assembly drawings

28.10.9 Parts lists

28.10.10 Schedule of required lubricants for the LTC mechanism

28.10.11 Nameplate information and shop order numbers for each item of equipment and component part

28.10.12 Instructions of accessories

28.10.13 Photographs of core and coil assembly

28.11 A flash drive shall be included with each copy of the instruction book. The flash drive shall contain the following:

28.11.1 A complete set of drawings in .PDF format

28.11.2 An electronic copy of all instruction manuals included in the instruction book

28.11.3 An electronic copy of all photographs included in the instruction book

28.11.4 An electronic copy of the final factory test report

29. SHIPPING

29.1 The transformer shall be shipped F.O.B. to the substation transformer pad, in Jacksonville, Florida. The manufacturer shall assume responsibility for safe arrival and handle all claims if damaged in shipment.

29.2 The transformer shall be shipped from the manufacturer's facility filled with dry air having a -50º F dew point or better.

29.2.1 A record of the exact dew point shall be included in the instruction book shipped with the unit.

29.2.2 All valves, shipping covers, etc. shall be sealed and effectively crated to prevent tampering or removal while in transit.

29.2.3 A valve/gauge arrangement to put in the one (1) inch filling valve located on the side of the tank shall be provided for allowing gas pressure measurement and dew point reading without the release of the gas.

29.3 Core ground lead and connector shall be in place for shipment to allow an insulation resistance test (Megger) of the unit core ground, without opening the tank, to be performed at arrival at site. A rigid housing shall be installed to protect the core ground lead and connector during shipping.

29.4 All conduits and auxiliary equipment mounting positions shall be sealed and/or covered to prevent water damage during shipment and storage.

29.5 **The manufacturer shall attach <u>two (2), two-way (vertical and horizontal) impact recorders</u> to the transformer.**

29.5.1 The requirement of two recorders is for redundancy in case one fails during transit.

29.5.2 Upon arrival and before unloading the transformer, the impact recorder tapes will be removed and inspected by JEA and the manufacturer’s representative.

29.5.3 If, in the opinion of JEA and or the manufacturer's representative, the impact recorder tape indicates rough handling during shipment, the manufacturer will be notified immediately.

29.5.4 The recorder tapes will be retained by JEA for study and shall be returned to the manufacturer upon request.

29.5.5 The manufacturer shall provide the necessary information for returning the impact recorders.

29.6 All equipment furnished hereunder which requires packaging shall be clearly labeled with the JEA purchase order number, substation name, item number (corresponding to the suppliers Bill of Materials) and a description of the contents enclosed.

29.6.1 Any package, which contains more than one (1) item, shall have a separate packing list attached for the specific contents of that package.

29.6.2 All equipment and packages shipped separate from the transformer shall be shipped either on pallets or bundled in an acceptable manner for off-loading.

29.6.3 The method of packing shall be such as to adequately protect the contents from any damage that might reasonably be encountered in transportation and handling.

29.6.4 Packing crates shall be such that long outdoor storage will not result in deterioration of crates or damage to contents.

29.6.5 Any equipment, which requires protection from the weather, shall use packing material such that it will provide weatherproof protection for a period of one (1) year in outdoor storage areas.

29.6.6 **Any packages, which require indoor storage, shall be clearly marked.**

29.6.7 Prior to shipment, the Project Engineer shall receive a complete packing list of all items to be shipped in order to check for complete shipment upon arrival.

29.7 All spare parts shall be **packaged separately** and clearly marked "**SPARE PARTS**".

29.7.1 The spare parts shall be shipped separate from the transformer and shall be delivered F.O.B. to:

JEA

Commonwealth Service Center

6674 Commonwealth Avenue

Jacksonville, Florida 32254

Attn: Material and Stores Dept.

30. FIELD ENGINEERING SERVICES

30.1 The manufacturer shall provide the services of a Field Engineer to provide technical direction and supervision to JEA for erecting the transformer.

30.1.1 This shall include, but not limited to, vacuum drying, oil filling, testing and shall assist in placing in operation and in making necessary adjustments of the equipment and any other activity needed to place the transformer in service.

30.2 The manufacturer shall include in the Bid Form the cost for three (3) working days, Monday through Friday, of field service.

30.2.1 The price shall include travel and per diem during the entire duration.

30.3 The Field Engineer must be thoroughly knowledgeable and experienced in the installation of the specific transformer and all of its parts and accessories.

30.4 JEA reserves the right to delete the Field Engineer service requirements from the Bid Proposal.

30.5 **The Field Engineer service cost will not be used for the bid evaluation**.

30.5.1 JEA also reserves the right to refuse the services of the Field Engineer, after issuing a P.O., unless required by the manufacturer, and deduct that amount from the payment schedule.

31. TRAINING

31.1. The manufacturer shall provide one week of training with each transformer purchased by JEA.

31.1.1. Training shall take place at a JEA facility.

31.1.2. Training topics will be related to transformer and substation design and maintenance. JEA will provide topics of interest to the manufacturer.

31.2. The manufacturer shall include an optional line item on each transformer quote for the cost for five (5) working days, Monday through Friday, of training.

31.2.1 The price shall include travel and per diem during the entire duration.

31.2.2 JEA reserves the right to refuse the training services after issuing a PO and to deduct that amount from the payment schedule.

31.3 **<u>The training service cost will not be used for the bid evaluation</u>**.

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32. SPARE PARTS

32.1. A list of recommended spare and replacement parts shall be included with the bid. This list shall include a complete description of the part, including manufacturer, catalog number and or part number, and prices for each item. This list shall include all items which will or may need replacing during the life of the transformer including gaskets, seals, O-rings, lubricants, etc. **The spare part list prices <u>will not be used</u> to award the bid.**

32.2. The spare parts list shall include the following parts as a minimum for each transformer:

32.2.1. One (1) high voltage bushing (230, 138, 69 KV)

32.2.2. One (1) low voltage bushing (34.5 KV)

32.2.3. One (1) neutral bushing

32.2.4. One (1) complete set of LTC stationary contacts

32.2.5. One (1) complete set of LTC reversing switch stationary contacts

32.2.6. One (1) set of LTC main moving contact fingers for the stationary contact end, which transitions from contact to contact

32.3. If additional spare parts are required for general maintenance procedures, they shall be included on this list.

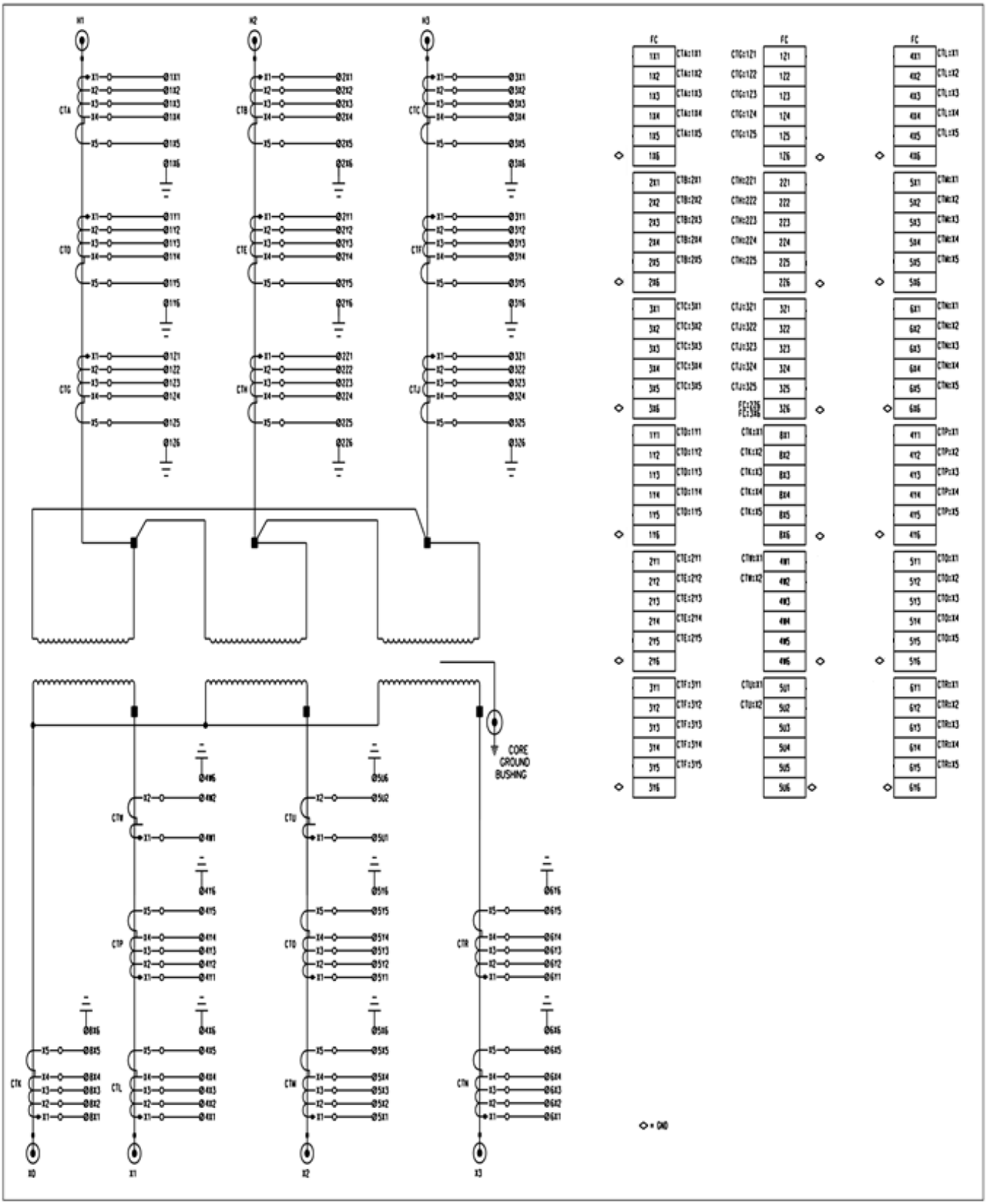
32.4. JEA reserves the right to purchase any or all of the spare parts on the spare parts list. Only those parts required to meet inventory requirements will be purchased.

32.5. The spare parts shall be shipped separate from the transformer and its assembly parts in accordance with **Paragraph 29.7**.

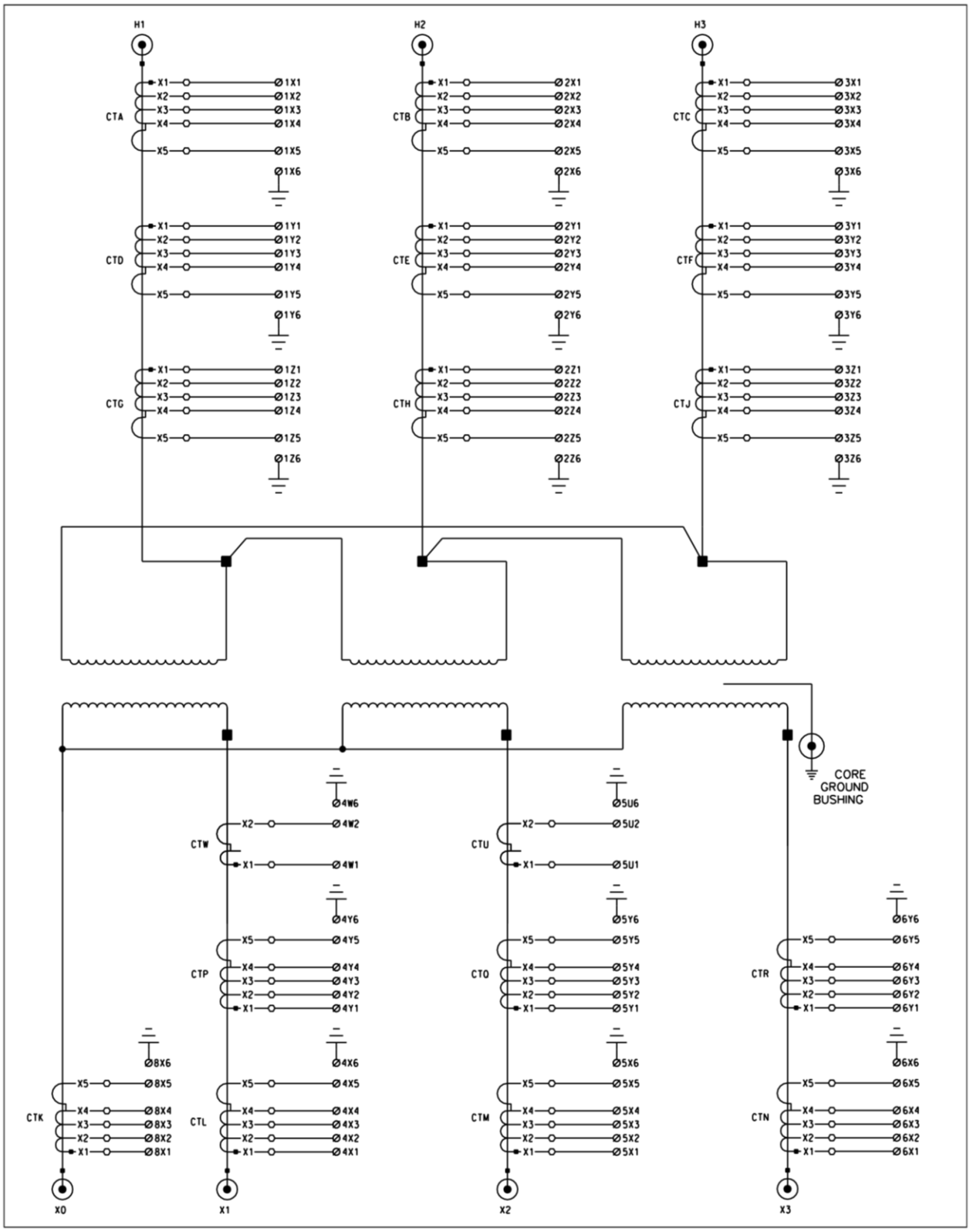
33. MANUFACTURER'S WARRANTY

The manufacturer shall provide a standard five (5) years warranty commencing on the date of JEA's acceptance at delivery site.

34. APPENDIX



From Section 14



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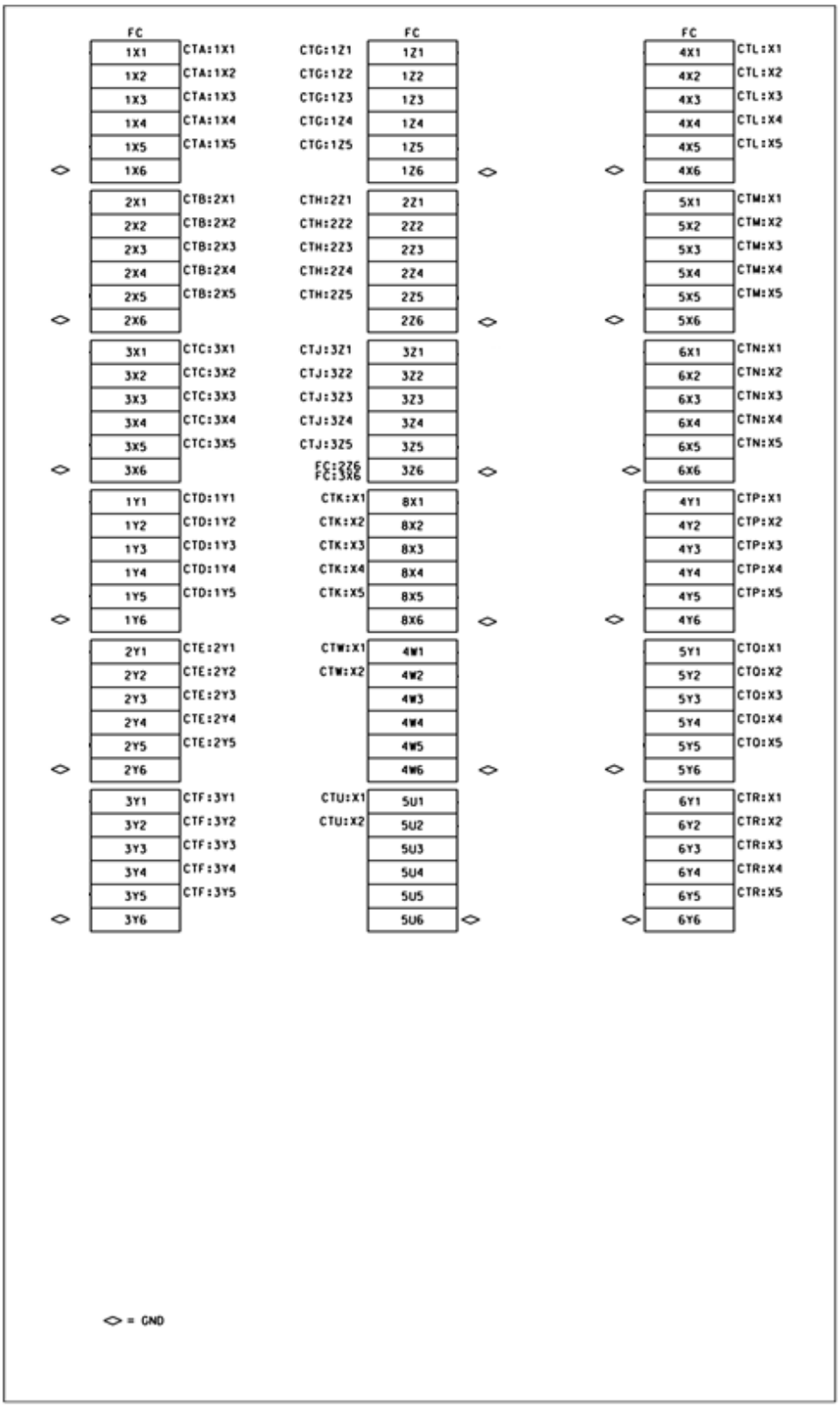
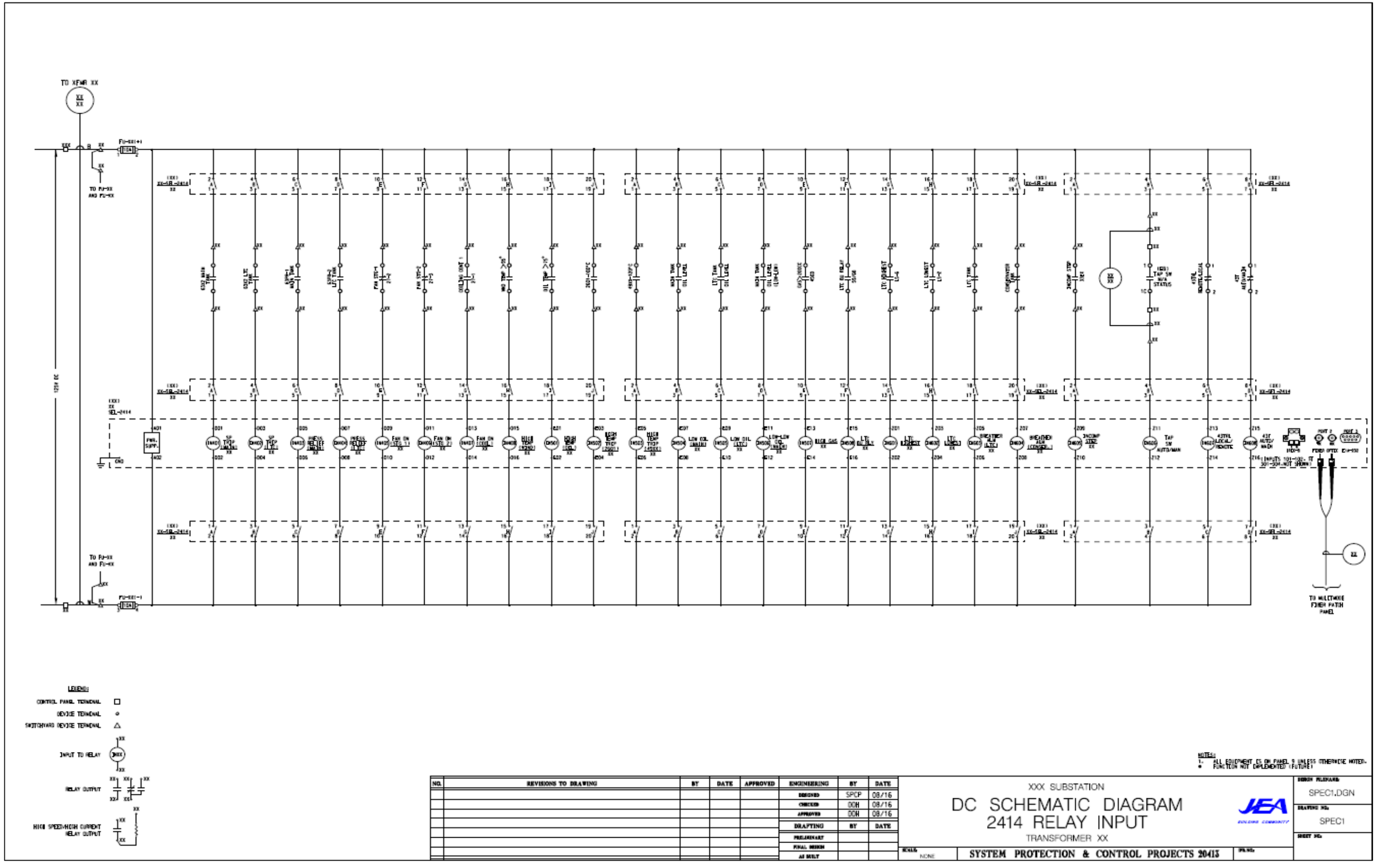
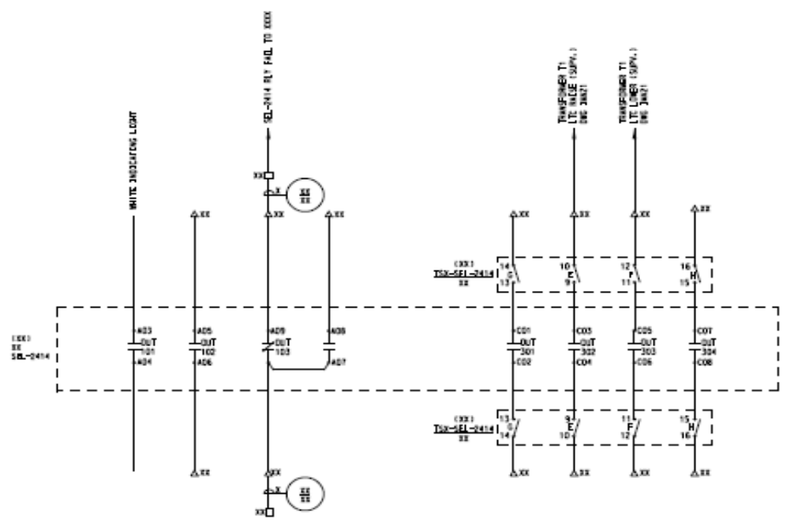


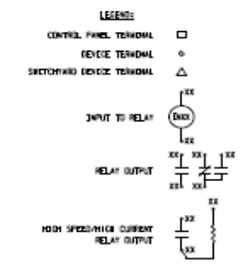
From Section 14

TEST	ASTM TEST METHOD	RESULTS
Adhesion	D-3359-B	
Salt Spray	B-117	
Humidity	D2247	
Impact	D-2794	
U-V Resistance	G-53	
Taber Abrasion	D-4060	
Oil Resistance	72 Hrs @100˚C	
Thermal Aging	1,000 Hrs @ 120˚C	
Pencil Hardness	D-3363	
VOC's	D-2369	

From Section 21.8


TO XFMR XX
TO FU-XX AND FU-XX
125V DC
TO MILLTHORE FIBER PATCH PANEL
LEGEND:
CONTROL PANEL TERMINAL
DEVICE TERMINAL
SWITCHYARD DEVICE TERMINAL
INPUT TO RELAY
RELAY OUTPUT
HIGH SPEED/HIGH CURRENT RELAY OUTPUT
NOTES:
1. ALL EQUIPMENT IS ON PANEL 5 UNLESS OTHERWISE NOTED.
* FUNCTION NOT IMPLEMENTED (FUTURE)
REVISIONS TO DRAWING
ENGINEERING
DRAFTING
XXX SUBSTATION
DC SCHEMATIC DIAGRAM
2414 RELAY INPUT
TRANSFORMER XX
SYSTEM PROTECTION & CONTROL PROJECTS 20413
SPEC1.DGN
SPEC1





NOTES:
1. ALL EQUIPMENT IS ON PANEL 9 UNLESS OTHERWISE NOTED.
* FUNCTION NOT IMPLEMENTED (FUTURE)

NO.	REVISIONS TO DRAWING	BY	DATE	APPROVED

ENGINEERING	BY	DATE
DESIGNED	CDH	12-00
CHECKED	CDH	12-00
APPROVED	CDH	12-00
DRAFTING	BY	DATE
PRELIMINARY		
FINAL DESIGN		
AS BUILT		

XXX SUBSTATION

DC SCHEMATIC DIAGRAM
2414 RELAY OUTPUT

TRANSFORMER XX

SCALE NONE

SYSTEM PROTECTION & CONTROL PROJECTS 20413

JEA

DESIGN FILENAME SPEC2

DRAWING NO. SPEC2

SHEET NO.

SEL—2414 (XX)

FT-1 TSX-SEL-2414-XX

SP TRIP (MAIN TANK) (+)	SP TRIP (LTC TANK) (+)	PRESS RELIEF (MAIN TANK) (+)	PRESS RELIEF (LTC TANK) (+)	FAN ON STG-1 (+)	FAN ON STG-2 (+)	FAN ON COOLING CONT 1 (+)	HIGH TEMP (WIND TEMP) (+)	HIGH TEMP (OIL TEMP) (+)	HIGH TEMP TRIP (26Q1) (+)

DETAIL 'A'
N1 SCALE 4:1

FT-1 TSX-SEL-2414-XX

HIGH TEMP TRIP (49T1) (+)	LOW OIL (MAIN TANK) (+)	LOW OIL (LTC TANK) (+)	LOW-LOW OIL (MAIN TANK) (+)	HIGH GAS (+)	LTC BU RLY (+)	LTC HIGHEST (+)	LTC LOWEST (+)	BREATHER ALM (LTC TANK) (+)	BREATHER ALM (CONSER.) (+)

DETAIL 'B'
N2 SCALE 4:1

FT-1 TSX-SEL-2414-XX

INCOMPLETE STEP (+)	TAP SW AUTO/MAN (+)	43TRL STATUS (+)	43T STATUS (+)	LTC RAISE - SUPV. (+)	LTC LOWER - SUPV. (+)	LTC AUTO - SUPV. (+)	LTC - 43TRL LOCAL (+)	LTC - 43T MAN (+)	

DETAIL 'C'
N3 SCALE 4:1

FT-1 TSX-SEL-2414-XX

SP TRIP (MAIN TANK) (IN401)	SP TRIP (LTC TANK) (IN402)	PRESS RELIEF (MAIN) (IN403)	PRESS RELIEF (LTC) (IN404)	FAN ON STG-1 (IN405)	FAN ON STG-2 (IN406)	FAN ON COOL CONT 1 (IN407)	HIGH TEMP (WIND) (IN408)	HIGH TEMP (OIL) (IN501)	HIGH TEMP TRIP (26Q1) (IN502)

DETAIL 'D'
N4 SCALE 4:1

FT-1 TSX-SEL-2414-XX

HIGH TEMP TRIP (49T1) (IN503)	LOW OIL (MAIN TANK) (IN504)	LOW OIL (LTC TANK) (IN505)	LOW-LOW OIL (MAIN) (IN506)	HIGH GAS (IN507)	LTC BU RLY (IN508)	LTC HIGHEST (IN601)	LTC LOWEST (IN602)	BREATHER ALM (LTC) (IN603)	BREATHER (CONSER.) (IN604)

DETAIL 'E'
N5 SCALE 4:1

FT-1 TSX-SEL-2414-XX

INCOMPLETE STEP (IN605)	TAP SW AUTOMAN (IN606)	43TRL STATUS (IN607)	43T STATUS (IN608)	LTC RAISE - SUPV. (-)	LTC LOWER - SUPV. (-)	LTC AUTO - SUPV. (-)	LTC - 43TRL LOCAL (-)	LTC - 43T MAN (-)	

DETAIL 'F'
N6 SCALE 4:1

FT-1 TSX-SEL-2414-XX

IN401 (-)	IN402 (-)	IN403 (-)	IN404 (-)	IN405 (-)	IN406 (-)	IN407 (-)	IN408 (-)	IN501 (-)	IN502 (-)

DETAIL 'G'
N7 SCALE 4:1

FT-1 TSX-SEL-2414-XX

IN503 (-)	IN504 (-)	IN505 (-)	IN506 (-)	IN507 (-)	IN508 (-)	IN601 (-)	IN602 (-)	IN603 (-)	IN604 (-)

DETAIL 'H'
N8 SCALE 4:1

FT-1 TSX-SEL-2414-XX

IN605 (-)	IN606 (-)	IN607 (-)	IN608 (-)						

DETAIL 'I'
N9 SCALE 4:1

LEGEND:
△ BREAKER OR TRANSFORMER TERMINALS
□ SWITCHBOARD TERMINAL POINTS
○ DEVICE TERMINAL POINTS

NO.	REVISIONS TO DRAWING	BY	DATE	APPROVED

ENGINEERING	BY	DATE
DESIGNED	SPCP	[illegible]
CHECKED	DDH	[illegible]
APPROVED	DDH	[illegible]
DRAFTING	BY	DATE
PRELIMINARY		
FINAL DESIGN		
AS BUILT		

XXX SUBSTATION
DC SCHEMATIC DIAGRAM
2414 TEST SWITCH NAMEPLATES
TRANSFORMER XX

SCALE NONE

SYSTEM PROTECTION & CONTROL PROJECTS 20413

DGN FILENAME SPEC3.DGN
DRAWING NO. SPEC3
SHEET NO.

APPENDIX B
RESPONSE FORM

062-17 Substation Transformer Supply for JEA

COMPANY INFORMATION:

COMPANY NAME:_____

BUSINESS ADDRESS:_____

CITY, STATE, ZIP CODE:_____

TELEPHONE:_____

FAX:_____

EMAIL OF CONTACT:_____

Enter Company Total Bid Price from the Bid Workbook	**$**

☐ **I have read and understood the Sunshine Law/Public Records clauses contained within this solicitation. I understand that in the absence of a redacted copy my proposal will be disclosed to the public "as-is".**

Company's Certification

By submitting this Proposal, the Proposer certifies that it has read and reviewed all of the documents pertaining to this RFP and agrees to abide by the terms and conditions set forth therein, that the person signing below is an authorized representative of the company, that the company is legally authorized to do business in the State of Florida, and that the company maintains in active status an appropriate license for the work. The company certifies that its recent, current, and projected workload will not interfere with the company's ability to Work in a professional, diligent and timely manner.

The Proposer certifies, under penalty of perjury, that it holds all licenses, permits, certifications, insurances, bonds, and other credentials required by law, contract or practice to perform the Work. The Proposer also certifies that, upon the prospect of any change in the status of applicable licenses, permits, certifications, insurances, bonds or other credentials, the Company shall immediately notify JEA of status change.

We have received addenda _____through_____

_____ _____
Signature of Authorize Officer of Company or Agent Date

_____ _____
Printed Name & Title Phone Number