



**CITY OF AZUSA  
NOTICE INVITING BIDS**

The City of Azusa - Light and Water Department (Buyer) invites Bidders to submit bids for one EQUIPMENT (Goods). The contract consists of furnishing Goods with optional 5-year warranty, delivery to Azusa Substation offloading and furnishing spare parts.

The Goods shall be delivered within 126 calendar days (18 weeks) from the commencement of Contract Time.

Bidders shall submit one original and one duplicate of Bid per the Instructions to Bidders, Section 00 21 13.

Buyer will receive sealed bids for the Furnishing Equipment under specifications LD2020-Equipment until **10:00 AM** local time on **April 14<sup>th</sup>, 2020** at the office of City Clerk:

City Hall  
213 E. Foothill Blvd  
Azusa, CA 91702  
Attention: City Clerk/Bid Document /Project LD2020-EQUIPMENT

Bids will then be opened publicly and read aloud. Bids received after the time of announced opening will not be accepted.

Each bid shall be made on the proposal form furnished by the City herewith and shall be in accordance with this notice and specifications on file available online at the following web link: <https://www.ci.azusa.ca.us/749/BidRequest-For-Proposals>

For further information, contact Hien Vuong (626) 812-5172 by email at: [hvuong@azusaca.gov](mailto:hvuong@azusaca.gov)  
Buyer reserves the right to reject any or all Bids, including without limitation the rights to reject any or all nonconforming, non-responsive, unbalanced or conditional Bids; and to reject the Bid of any Bidder if Buyer believes that it would not be in the best interest of the Project to make an award to that Bidder, whether because the Bid is not responsive or the Bidder is unqualified or of doubtful financial ability or fails to meet any other pertinent standard or criteria established. Buyer also reserves the right to waive all informalities not involving price, time, or other material changes to technical or contractual requirements.

Dated: March 24, 2020  
/s/Jeffrey Lawrence Cornejo, Jr., City Clerk

Published in the San Gabriel Valley Tribune on March 26, 2020.

**PROCUREMENT CONTRACT  
NO. LD2020-EQUIPMENT**

**SPECIFICATION  
for  
EQUIPMENT  
AZUSA SUBSTATION**

**Prepared and issued by:  
City of Azusa - Light and Water Department  
Azusa, CA  
(Buyer)**

**In conjunction with:  
EPS Engineering & Design  
Springfield, MO  
(Engineer)**

**March 2020**

**SECTION 00 01 10  
TABLE OF CONTENTS**

**PROCUREMENT CONTRACT NO. LD2020-EQUIPMENT**

**EQUIPMENT  
AZUSA SUBSTATION  
AZUSA LIGHT AND WATER**

<b><u>SECTION</u></b>	<b><u>DESCRIPTION</u></b>
<b>DIVISION 00</b>	<b>PROCUREMENT AND CONTRACTING REQUIREMENTS</b>

***INTRODUCTORY INFORMATION***

00 01 15	List of Drawings
----------	------------------

**PROCUREMENT REQUIREMENTS**

***00 10 00 Solicitation***

00 11 16	Invitation to Bid
----------	-------------------

***00 20 00 Instructions for Procurement***

00 21 13	Instructions to Bidders
----------	-------------------------

***00 40 00 Procurement Forms and Supplements***

00 41 63	Bid Form
00 43 93	Bid Submittal Checklist
00 45 05	Proposed Exceptions and Deviations
00 45 10	Data and Information Forming Part of the Bid
00 45 13	Bidder's Qualifications
00 45 19	Non-Collusion Affidavit

**CONTRACTING REQUIREMENTS**

***00 50 00 Contracting Forms and Supplements***

00 51 00	Notice of Award
00 52 63	Agreement (Purchase)

***00 60 00 Project Forms***

P-00 62 11	Submittal Transmittal Form
P-00 62 76	Application for Payment Form
P-00 63 13	Request for Interpretation/Information
P-00 63 26	Change Request Form
P-00 63 63	Change Order Form

<b>DIVISION 33</b>	<b>TECHNICAL SPECIFICATION</b>
33 73 20	EQUIPMENT

**END OF SECTION**

**SECTION 00 01 15  
LIST OF DRAWINGS**

**PROCUREMENT CONTRACT NO. LD2020-EQUIPMENT**

**EQUIPMENT  
AZUSA SUBSTATION  
AZUSA LIGHT AND WATER**

<b>DRAWING NUMBER</b>	<b>DRAWING TITLE</b>
<b>REFERENCE DRAWINGS</b>	
--	None

**END OF SECTION**

**SECTION 00 11 16  
INVITATION TO BID**

**PROCUREMENT CONTRACT NO. LD2020-EQUIPMENT**

**EQUIPMENT  
AZUSA SUBSTATION  
AZUSA LIGHT AND WATER**

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**END OF SECTION**

**SECTION 00 21 13  
INSTRUCTIONS TO BIDDERS**

**PROCUREMENT CONTRACT NO. LD2020-EQUIPMENT**

**EQUIPMENT  
AZUSA SUBSTATION  
AZUSA LIGHT AND WATER**

**ARTICLE 1 - DEFINED TERMS**

1.01 Terms used in these Instructions to Bidders, will have the meanings indicated in Section 00 52 63, Agreement for Procurement Contract no. LD2020-EQUIPMENT. Additional terms used in these Instructions to Bidders have the meanings indicated below which are applicable to both the singular and plural thereof.

*Forms for Bid* shall mean the following forms included in the Bidding Documents that are required to be submitted as part of the Bid.

00 41 63	Bid Form
00 43 93	Bid Submittal Checklist
00 45 05	Proposed Exceptions and Deviations
00 45 10	Data and Information Forming Part of the Bid
00 45 13	Bidder's Qualifications
00 45 19	Non-Collusion Affidavit

**ARTICLE 2 - BIDS RECEIVED**

2.01 Refer to Invitation to Bid for information on receipt Bids.

**ARTICLE 3 - COPIES OF BIDDING DOCUMENTS**

3.01 Complete hardcopy sets of the Bidding Documents may be obtained as specified in the Invitation to Bid, Section 00 11 16.

3.02 Complete sets of the Bidding Documents shall be used in preparing Bids. Buyer does not assume any responsibility for errors or misinterpretations resulting from the use of incomplete sets of Bidding Documents.

3.03 Buyer in making copies of Bidding Documents available on the above terms do so only for the purpose of obtaining Bids for furnishing Goods and do not confer a license or grant for any other use.

**ARTICLE 4 - QUALIFICATIONS OF BIDDERS**

BASED ON: EJCDC P-200 Suggested Instructions to Bidders for Procurement Contracts  
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- 4.01 To demonstrate Bidder's qualifications to furnish Goods each Bidder shall submit information required by Section 00 45 13, Bidder's Qualifications, and must be prepared to submit within five days of Buyer's request, such other data as may be requested.

#### **ARTICLE 5 - EXAMINATION OF BIDDING DOCUMENTS AND POINT OF DESTINATION**

5.01 Not Used

5.02 It is the responsibility of each Bidder before submitting a Bid to:

- A. examine and carefully study the Bidding Documents, including any Addenda and the related data identified in the Bidding Documents;
- B. if specified, or if, in Bidder's judgment, any local condition may affect cost, progress or the furnishing of Goods, Bidder shall request clarification, in writing, from City prior to submitting bid;
- C. become familiar with and satisfy Bidder as to all Industry Standards, Laws and Regulations that may affect cost of furnishing of Goods;
- D. carefully study and correlate the information known to Bidder, and information and observations obtained from Bidder's visits (if any) to the Point of Destination, with the Bidding Documents;
- E. promptly give Buyer written notice of all conflicts, errors, ambiguities, or discrepancies that Bidder discovers in the Bidding Documents and confirm that the written resolution thereof by Buyer is acceptable to Bidder;
- F. determine that the Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for furnishing Goods.

5.03 The submission of a Bid will constitute an incontrovertible representation by Bidder that:

- A. Bidder has complied with every requirement of this document;
- B. the Bid is premised upon furnishing Goods required by the Bidding Documents;
- C. Bidder has given Buyer written notice of all conflicts, errors, ambiguities and discrepancies that Bidder has discovered in the Bidding Documents and the written resolutions thereof by Buyer are acceptable to Bidder; and
- D. the Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for furnishing Goods.

## **ARTICLE 6 - INTERPRETATIONS**

6.01 All questions about the meaning or intent of the Bidding Documents shall be submitted to Buyer in writing. Interpretations or clarifications considered necessary by Buyer in response to such questions will be issued by Addenda mailed or delivered to all parties recorded by Buyer as having received the Bidding Documents. Questions received less than 5 days prior to the date for opening of Bids will not be answered. Only answers in the Addenda will be binding. Oral and other interpretations or clarifications will be without legal effect. All communications shall be in writing and submitted by electronic mail to City's representative: Hien Vuong at: [hvuong@azusaca.gov](mailto:hvuong@azusaca.gov). Issuance of Addendum will be posted/announced on City's website at: <https://www.ci.azusa.ca.us/749/BidRequest-For-Proposals>

6.02 Addenda may be issued to clarify, correct, or change the Bidding Documents as deemed advisable by Buyer.

## **ARTICLE 7 - NOT USED**

## **ARTICLE 8 - CONTRACT TIMES**

8.01 As set forth in the Agreement, Section 00 52 63.

## **ARTICLE 9 - LIQUIDATED DAMAGES**

9.01 Provisions for liquidated damages (if any) are set forth in the Agreement, Section 00 52 63.

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## **ARTICLE 10 - "OR EQUAL" ITEMS**

10.1 The Contract, if awarded, will be on the basis of material and equipment specified or described in the Bidding Documents without consideration of possible "or equal" items. Whenever it is specified or described in the Bidding Documents that an "or equal" item of material or equipment may be furnished or used by Seller if acceptable to Buyer, application for such acceptance will not be considered by Buyer until after the Effective Date of the Agreement. The procedure for submittal of any such application by Seller and consideration by Buyer is set forth in the General Conditions.

## **ARTICLE 11 - PREPARATION OF BID**

11.01 The Bid Form and other required Forms for Bid are included in the Bidding Documents. Additional copies may be obtained from Buyer.

11.02 All blanks on the Bid Form and required Forms for Bid shall be typed or printed in ink and the Bid signed in ink. A Bid price shall be indicated for each item required in the Bid, or the words "No Bid" or "Not Applicable" entered.

11.03 All names must be typed or printed in ink below the signature.

A. A Bid by a corporation shall be executed in the corporate name by the president or a vice president or other corporate officer accompanied by evidence of authority to sign. The corporate seal shall be affixed and attested by the secretary or an assistant secretary. The corporate address and state of incorporation shall be shown below the signature.

B. A Bid by a limited liability company shall be executed in the name of the firm by a member and accompanied by evidence of authority to sign. The state in which the firm was formed and the official address of the firm shall be shown below the signature.

C. A Bid by a partnership shall be executed in the partnership name and signed by a partner (whose title must appear under the signature) accompanied by evidence of authority to sign. The official address of the partnership shall be shown below the signature.

D. A Bid by an individual shall show the Bidder's name and official address.

11.04 The Bid shall contain an acknowledgment of receipt of all Addenda, the numbers of which shall be filled in on the Bid Form.

11.05 The contact, address, telephone number, and email address for communications regarding the Bid shall be shown.

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## **ARTICLE 12 - SUBMITTAL OF BID**

- 12.01 Each prospective Bidder is furnished one copy of the full Bidding Documents with one separate, unbound copy of the Forms for Bid. The Forms for Bid as listed in Article 1 above are to be completed and submitted with the Bid Form in the quantity indicated in the Invitation to Bid, Section 00 11 16.
- 12.02 Bids shall be submitted no later than the date and time indicated in the Invitation to Bid, Section 00 11 16, and shall be enclosed in an opaque sealed envelope, plainly marked with the Contract title, the name and address of the Bidder, and shall be accompanied by the Bid Form and Forms for Bid and other required documents. If the Bid is sent through the mail, courier, or other delivery system, the sealed envelope containing the Bid shall be enclosed in a separate envelope plainly marked on the outside with the notation "BID ENCLOSED".
- 12.03 Bids shall be addressed as indicated in the Invitation to Bid, Section 00 11 16.

## **ARTICLE 13 - MODIFICATION AND WITHDRAWAL OF BIDS**

- 13.01 A Bid may be modified or withdrawn by a document executed in the manner that a Bid must be executed and delivered to the place where Bids are to be submitted prior to the date and time for the opening of Bids.
- 13.02 If, within 24 hours after Bids are opened, any Bidder files a signed written notice with Buyer and promptly thereafter demonstrates to the reasonable satisfaction of Buyer that there was a material and substantial mistake in the preparation of its Bid, it may withdraw its Bid, and its Bid security will be returned. Thereafter, if the Goods are re-bid, that Bidder may be disqualified from further bidding on the Goods to be furnished under the Contract Documents at the Buyer's option.

## **ARTICLE 14 - OPENING OF BIDS**

- 14.01 Bids will be opened at the time and place indicated in the Invitation to Bid, Section 00 11 16. Bids will then and there be publicly opened and read aloud unless obviously non-responsive.

## **ARTICLE 15 - BIDS TO REMAIN SUBJECT TO ACCEPTANCE**

- 15.01 All Bids will remain subject to acceptance for 60 days, as stated in the Bid Form, but Buyer may, in its sole discretion, release any Bid and return the Bid security (if any) prior to the end of this period.

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## **ARTICLE 16 - BASIS OF BID; COMPARISON OF BIDS**

- 16.01 Bids may be compared on the basis of pricing, delivery time, operating costs, maintenance requirements, performance data and guarantees of Goods. Buyer will consider whether or not the Bids comply with the prescribed requirements, and such alternatives, unit prices and other data, as may be requested in the Bid Form or may be requested from Bidders prior to a Notice of Award. Buyer will also consider the qualifications of the Bidders.
- 16.02 Bidder shall submit a Bid as set forth on the Bid Form. Discrepancies between words and figures will be resolved in favor of words.
- 16.03 This document shall take precedence over all other documents for commercial criteria included in bid package. EPS document TS-0001 EQUIPMENT Specification shall take precedence with regard to technical criteria.
- 16.04 Buyer may conduct such investigations as Buyer deems necessary to establish the responsibility, qualifications, and financial ability of Bidder's proposed suppliers, individuals, or entities to furnish parts of the Goods in accordance with the Contract Documents.
- 16.05 More than one Bid for the same Goods from an individual or entity under the same or different names will not be considered. Reasonable grounds for believing that any Bidder has an interest in more than one Bid for the Goods shall be cause for disqualification of that Bidder and the rejection of all Bids in which that Bidder has an interest.

## **ARTICLE 17 - AWARD OF CONTRACT**

- 17.01 Buyer reserves the right to reject any and all Bids, including without limitation, nonconforming, non-responsive, unbalanced, or conditional Bids. Buyer further reserves the right to reject the Bid of any Bidder whom it finds, after reasonable inquiry and evaluation, not to be responsible. Buyer may also reject the Bid of any Bidder if Buyer believes that it would not be in the best interest of the Buyer to make an award to that Bidder. Buyer also reserves the right to waive all informalities not involving price, time, or other material changes to technical or contractual requirements.
- 17.02 If the Contract is to be awarded, Buyer will award the Contract to the Bidder whose Bid is in the best interest of Buyer.
- 17.03 If the Contract is to be awarded, Buyer will issue a Notice of Award per Section 00 51 00 to the Successful Bidder within 5 business days after the contract is awarded by the Utility Board during its scheduled meeting on April 27, 2020.

## **ARTICLE 18 – NOT USED**

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## **ARTICLE 19 - SIGNING OF AGREEMENT**

19.01 When Buyer issues a Notice of Award to Successful Bidder, it shall include instructions and conditions for submission of required documents and execution of the Agreement.

**END OF SECTION**

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**SECTION 00 41 63  
BID FORM**

**PROCUREMENT CONTRACT NO. LD2020-EQUIPMENT**

**EQUIPMENT  
AZUSA SUBSTATION  
AZUSA LIGHT AND WATER**

**ARTICLE 1 - BID RECIPIENT**

1.01 This Bid is submitted by: \_\_\_\_\_

This Bid is submitted to:

Azusa Light & Water, City of Azusa  
729 N. Azusa Avenue, Azusa, CA 91702  
Attention: Hien Vuong – Electric Operations

1.02 The undersigned Bidder proposes and agrees, if this Bid is accepted, to enter into an Agreement with Buyer in the form included in the Bidding Documents to furnish Goods as specified or indicated in the Bidding Documents for the prices and within the times indicated in this Bid and in accordance with the other terms and conditions of the Bidding Documents.

**ARTICLE 2 - BIDDER'S ACKNOWLEDGMENTS**

2.01 Bidder accepts all of the terms and conditions of the Invitation to Bid and Instructions to Bidders, including without limitation those dealing with the disposition of Bid security. The Bid will remain subject to acceptance for 60 days after the Bid opening, or for such longer period of time that Bidder may agree to in writing upon request of Buyer.

2.02 Bidder accepts the provisions of the Agreement as to liquidated damages in the event of its failure to furnish the Goods in accordance with the schedule set forth in the Agreement.

**ARTICLE 3 - BIDDER'S REPRESENTATIONS**

3.01 In submitting this Bid, Bidder represents:

A. Bidder has examined and carefully studied the Bidding Documents, the other related data identified in the Bidding Documents, and the following Addenda, receipt of all of which is hereby acknowledged.

Addendum No.	Date
_____	_____
_____	_____

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- B. If specified, or if in Bidder's judgment, any local condition may affect cost, progress or the furnishing of Goods.
- C. Bidder is familiar with and is satisfied as to all applicable Industry Standards, Laws and Regulations that may affect cost, progress and the furnishing of Goods.
- D. Bidder has carefully studied and correlated the information known to Bidder, and information.
- E. Bidder has given Buyer written notice of all conflicts, errors, ambiguities, or discrepancies that Bidder has discovered in the Bidding Documents, and the written resolution thereof by Buyer is acceptable to Bidder.
- F. The Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for furnishing the Goods for which this Bid is submitted.

**ARTICLE 4 - BASIS OF BID**

4.01 Bidder will furnish the Goods in accordance with the Contract Documents for the following price(s) including all applicable duties and taxes.

Furnish <b>EQUIPMENT</b> as listed below and as specified, including drawings, delivery, offloading, and assembly instructions by a manufacturer's field service engineer.	
BREAKER PRICE	BREAKER PRICE
_____	\$ _____
_____ and _____/100	SWITCH PRICE
SWITCH PRICE	\$ _____
_____	_____ and _____/100
_____ and _____/100	ARRESTER PRICE
ARRESTER PRICE	\$ _____
_____	_____ and _____/100
_____ and _____/100	TOTAL BID PRICE
TOTAL BID PRICE	\$ _____
_____	_____ and _____/100
(Use words)	(Use figures)

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**ARTICLE 5 – TIME OF COMPLETION**

5.01. Bidder agrees that the furnishing of Goods will conform to the schedule set forth in Article 5 of the Agreement. If the delivery time is other than that set forth in the Agreement, the proposed delivery time is:

Goods: .....

**ARTICLE 6 – ATTACHMENTS TO THIS BID**

6.01 The following documents are attached to and made a condition of this Bid:

- 1. Required Bid security in the form of \_\_\_\_\_.
- 2. Section 00 43 93 Bid Submittal Checklist
- 3. Section 00 45 05 Proposed Exceptions and Deviations
- 4. Section 00 45 10 Data and Information Forming Part of the Bid
- 5. Section 00 45 13 Bidder's Qualifications
- 6. Section 00 45 19 Non-Collusion Affidavit

**ARTICLE 7 – DEFINED TERMS**

The terms used in this Bid have the meanings indicated in the General Conditions and the Supplementary Conditions. The significance of terms with initial capital letters is described in the General Conditions.

**ARTICLE 8 - BID SUBMITTAL**

8.01 This Bid submitted by:

A Corporation

Corporation Name: \_\_\_\_\_

State of Incorporation: \_\_\_\_\_

Type (General Business, Professional, Service, Limited Liability): \_\_\_\_\_

By: \_\_\_\_\_

*(Signature -- attach evidence of authority to sign)*

Name (typed or printed): \_\_\_\_\_

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

(CORPORATE SEAL)

Attest \_\_\_\_\_

*(Signature of Corporate Secretary)*

An Individual

Name (typed or printed): \_\_\_\_\_

By: \_\_\_\_\_

*(Individual's signature)*

Doing business as: \_\_\_\_\_

Business address: \_\_\_\_\_

Phone: \_\_\_\_\_ Email: \_\_\_\_\_

A Partnership

Partnership Name: \_\_\_\_\_

By: \_\_\_\_\_

*(Signature of general partner -- attach evidence of authority to sign)*

Name (typed or printed): \_\_\_\_\_

Business address: \_\_\_\_\_

Phone: \_\_\_\_\_ Email: \_\_\_\_\_

Business address: \_\_\_\_\_

Phone: \_\_\_\_\_ Email: \_\_\_\_\_

Date of Qualification to do business is \_\_\_\_\_.

**NAME, PHONE, EMAIL, AND MAILING ADDRESS FOR RECEIPT OF OFFICIAL COMMUNICATIONS:**

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**END OF SECTION**

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**SECTION 00 43 93  
BID SUBMITTAL CHECKLIST**

**PROCUREMENT CONTRACT NO. LD2020-EQUIPMENT**

**EQUIPMENT  
AZUSA SUBSTATION  
AZUSA LIGHT AND WATER**

**BIDDER CONFIRMS THAT THE FOLLOWING DOCUMENTS ARE FULLY COMPLETED, INCLUDED IN AND MADE A PART OF ITS BID.**

- Section 00 41 63 – Bid Form
- Evidence of ability to meet insurance requirements of the General Conditions
- Section 00 45 05 – Proposed Exceptions and Deviations
- Section 00 45 10 – Data and Information Forming Part of the Bid
- Section 00 45 13 – Bidder’s Qualifications
- Section 00 45 19 – Non-Collusion Affidavit
- Identify any Attachments below submitted by Bidder that are to be made part of its Bid (list items below or indicate “None”)

The original and **one** complete copy marked “Duplicate” of the above have been submitted to the Buyer in accordance with the Instructions to Bidders, Section 00 21 13.

Confirmed by Bidder \_\_\_\_\_

**END OF SECTION**

**SECTION 00 45 05  
PROPOSED EXCEPTIONS OR DEVIATIONS**

**PROCUREMENT CONTRACT NO. LD2020-EQUIPMENT**

**EQUIPMENT  
AZUSA SUBSTATION  
AZUSA LIGHT AND WATER**

**PROPOSED EXCEPTIONS AND DEVIATIONS MAY ONLY BE SUBMITTED ON THIS FORM AND MAY BE ACCEPTED OR REJECTED UNILATERALLY BY BUYER, IN ITS SOLE DISCRETION.**

Each exception and deviation proposed (excluding Priced Options specified in the Bid Form) must be summarized and additively or deductively priced below with specific details attached in accordance with the instructions below. The summary must include a reference to the Section(s) of the Bidding Documents affected by the proposed exception. Bids that do not comply with these requirements for the presentation of exceptions may be considered non responsive and may be rejected at the discretion of the Buyer.

**SUMMARY**

Description	Price Adjustment Amount (Indicate deductions in parentheses)



**SECTION 00 45 10**  
**DATA AND INFORMATION FORMING PART OF THE BID**  
**PROCUREMENT CONTRACT NO. LD2020-EQUIPMENT**  
**EQUIPMENT**  
**AZUSA SUBSTATION**  
**AZUSA LIGHT AND WATER**

- A. Submit certifications or evidence of ability to meet insurance requirements of the General and Supplementary Conditions.
- B. The following manufacturers are proposed to be employed to furnish components of the Goods:

Name	Address	Type of Components	Percent of Total Cost of Goods

## TECHNICAL DATA – EQUIPMENT

Name of manufacturer	
Parts removed for shipment	
Proposed method of shipment	
Location of manufacturing facility for the equipment	
Loose Parts	
Details of warranty	Attach

## RECOMMENDED SPARE PARTS

Submit a list recommended spare parts in addition to those included the Bid Pricing which may be purchased at Buyer's option. Additional recommended spare part prices shall be listed, priced F.O.B. Point of Destination including all duties and taxes \*but excluding Sales Tax\*.

**END OF SECTION**

**SECTION 00 45 13  
BIDDER'S QUALIFICATIONS**

**PROCUREMENT CONTRACT NO. LD2020-EQUIPMENT**

**EQUIPMENT  
AZUSA SUBSTATION  
AZUSA LIGHT AND WATER**

**THE FOLLOWING STATEMENTS OF EXPERIENCE AND GENERAL QUALIFICATIONS OF BIDDER ARE SUBMITTED AS PART OF THE BID AND BIDDER REPRESENTS AND GUARANTEES THE TRUTHFULNESS AND ACCURACY THEREOF.**

- A. Bidder has been in business continuously from the year \_\_\_\_\_.
- B. Bidder has had experience in manufacturing equipment comparable to that required by the Contract Documents as a prime manufacturer for \_\_\_\_\_ years, as a component manufacturer for \_\_\_\_\_ years, or as an equipment supplier for \_\_\_\_\_ years.
- C. Following is a list of the equipment Bidder has manufactured or supplied which is similar in character and in magnitude to that required by the Contract Documents:

<b>Year</b>	<b>Name</b>	<b>Location</b>	<b>Contract Amount</b>

**END OF SECTION**

**SECTION 00 45 19  
NON-COLLUSION AFFIDAVIT**

I, \_\_\_\_\_, being duly sworn depose and under the penalty of perjury say that the following is true:

1. I am the person responsible within my firm for the final decision as to the price(s) and amount of this Bid or, if not, that I have written authorization, enclosed herewith, from that person to make the statements set out below on his or her behalf and on the behalf of my firm.
2. The price(s) and amount of this Bid have been arrived at independently, without collusion, consultation, communication, or agreement for the purpose of restricting competition with any other contractor, competitor, Bidder, or potential Bidder.
3. Unless otherwise required by law, neither the price(s) nor the amount of this Bid have been disclosed to any other firm or person who is a Bidder, competitor, or potential Bidder on this Project, and will not be so disclosed either directly or indirectly prior to Bid opening.
4. No attempt has been made or will be made to solicit, cause, or induce any firm, partnership, corporation, or person to submit or not submit a Bid on this Project, or to submit a Bid higher than the Bid of this firm, or submit an intentionally high or noncompetitive Bid or other form of complementary Bid, or for the purpose of restricting competition.
5. The Bid of my firm is made in good faith and not pursuant to any agreement or discussion with, or inducement from, any firm or person to submit a complementary Bid.
6. My firm has not offered or entered into a subcontracting agreement regarding the purchase of materials from any firm or person, or offered, promised, or paid cash or anything of value to any firm or person, whether in connection with this or any other Project, in consideration for an agreement or promise by any firm or person to refrain from proposing or to submit a complementary Bid on the Project.
7. My firm has not accepted nor been promised any subcontract or agreement regarding the sale of materials to any firm or person, and has not been promised or paid cash or anything of value to any firm or person, whether in connection with this or any other Project, in consideration for my firm's submitting a complementary Bid or agreeing to do so, on this Project.
8. I have made a diligent inquiry of all members, officers, employees, and agents of my firm with responsibilities relating to the preparation, approval, or submission of my firm's Bid on this Project and have been advised by each of them that he or she has not participated in any communication, consultation, discussion, agreement, collusion, act, or other conduct inconsistent with any of the statements and representations made in this affidavit.

Attest:

Sworn to me this \_\_\_\_\_ day of

\_\_\_\_\_  
Company Name

\_\_\_\_\_  
Signature and Company Position

\_\_\_\_\_  
Type Name Company Position

By: \_\_\_\_\_

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

**SECTION 00 51 00  
NOTICE OF AWARD**

Dated: \_\_\_\_\_

Project:	Buyer:	Buyer's Contract No.:
Contract:		Engineer's Project No.:
Bidder:		
Bidder's Address:		

You are notified that your Bid dated \_\_\_\_\_\*DATE\* for the above Contract has been considered. You are the Successful Bidder and are awarded a Contract for \_\_\_\_\_\*Indicate total Work, alternates or sections or Work awarded\*.

The Total Price of your Contract:

\_\_\_\_\_ and \_\_\_\_\_/100 Dollars (\$\_\_\_\_\_)  
(Use words) (Use figures)

Three sets of the Contract Documents will be delivered separately after compliance with the following conditions. You must comply with the following conditions precedent within 15 days of the date you receive this Notice of Award.

1. Deliver Insurance Certificates as evidence of insurance coverage required by General Conditions and Supplementary Conditions.
2. Other conditions precedent:

Failure to comply with these conditions within the time specified will entitle Buyer to consider you in default, annul this Notice of Award and declare your Bid security forfeited.

Within ten days after you comply with the above conditions, Buyer will provide copies of the Agreement and conformed Contract Documents for execution.

\_\_\_\_\_  
City

By: \_\_\_\_\_  
Authorized Signature

\_\_\_\_\_  
Title



**SECTION 00 52 63  
AGREEMENT**

**PROCUREMENT CONTRACT NO. LD2020-EQUIPMENT**

**EQUIPMENT  
AZUSA SUBSTATION  
AZUSA LIGHT AND WATER**

THIS AGREEMENT between Azusa Light and Water, City of Azusa, (Buyer”), and \_\_\_\_\_ (“Seller”).

Buyer and Seller, in consideration of the mutual covenants set forth herein, agree as follows:

**ARTICLE 1 - GOODS**

1.01 Seller shall furnish the Goods as specified or indicated in the Contract Documents. The Goods to be furnished are described in the Summary of Work.

**ARTICLE 2 - THE PROJECT**

2.01 The Project for which the Goods to be provided under the Contract Documents may be the whole or only a part is generally described as Azusa Substation.

**ARTICLE 3 - ENGINEER**

3.01 The Contract Documents for the Goods have been specified by EPS Engineering & Design, who is hereinafter called Engineer and who is to assume all duties and responsibilities and have the rights and authority assigned to Engineer in the Contract Documents in connection with the furnishing of Goods.

**ARTICLE 4 - POINT OF DESTINATION**

4.01 The place where the Goods are to be delivered is defined in the General Conditions as the Point of Destination and is designated as:

Azusa Substation  
City of Azusa  
809 Angeleno  
Azusa, CA 91702

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## ARTICLE 5 - CONTRACT TIMES

### 5.01 *Time of the Essence*

- A. All time limits for Milestones, if any, the delivery of Goods as stated in the Contract Documents are of the essence of the Contract.

### 5.02 *Days for Submittal of Shop Drawings*

- A. All Shop Drawings and Samples required by the Contract Documents will be submitted to Buyer for Engineer's review and approval within 42 days after the date when the Contract Times commence to run as provided in Paragraph 2.03 of the General Conditions.

### 5.03 *Date for Delivery of Goods*

- A. The Goods are to be delivered to the Point of Destination and ready for Buyer's receipt of delivery on (or within 15 days prior to) 31 August 2020.

### 5.04 *Taxes*

- A. Seller shall be responsible for all taxes and duties arising out of the sale of the Goods and the furnishing of Special Services. Seller shall pay all other taxes and duties required to be paid by in accordance with the Laws and Regulations.

### 5.05 *Liquidated Damages*

- A. Buyer and Seller recognize that time is of the essence of this Agreement and that Buyer will suffer financial loss if the drawings and design documentation are not delivered to Buyer within the times specified in Paragraph 5.02 above, plus any extensions thereof allowed in accordance with Article 7 of the General Conditions. The parties also recognize that the timely performance of services by others involved in the Project is materially dependent upon Seller's specific compliance with the requirements of Paragraph 5.02. Further, they recognize the delays, expense and difficulties involved in proving the actual loss suffered by Buyer if complete acceptable drawings and design documents are not delivered on time. Accordingly, instead of requiring such proof, Buyer and Seller agree that as liquidated damages **for delay** (but not as a penalty) Seller shall pay Buyer \$500 for each day that expires after the time specified in Paragraph 5.02 for delivery of all acceptable drawings and design documents.

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## ARTICLE 6 - CONTRACT PRICE

6.01 The City shall pay Seller for furnishing the Goods in accordance with the Contract Documents in current U.S. funds as follows:

\_\_\_\_\_ and \_\_\_\_\_/100 Dollars (\$\_\_\_\_\_)  
(Use words) (Use figures)

## ARTICLE 7 - PAYMENT PROCEDURES

### 7.01 *Submittal and Processing of Payments*

A. Seller shall submit Applications for Payment in accordance with Article 10 of the General Conditions. Applications for Payment will be processed by Engineer as provided in the General Conditions.

### 7.02 *Progress Payments*

A. Buyer shall make progress payments on account of the Contract Price on the basis of Seller's Applications for Payment as follows:

1. Upon receipt of the first Application for Payment submitted in accordance with Paragraph 10.01.A.2 of the General Conditions in accordance with Paragraph 10.02.A of the General Conditions, an amount equal to **90-percent** of the Contract Price in accordance with Paragraph 10.02.A.3 of the General Conditions.
2. Upon receipt of the second such Application for Payment in accordance with Paragraph 10.01.A.2 of the General Conditions, an amount sufficient to increase total payments to Seller to **90 percent** of the Contract Price, in accordance with Paragraph 10.02.A.3 of the General Conditions.

### 7.03 *Final Payment*

A. Upon receipt of the final Application for Payment in accordance with paragraph 10.06 of the General Conditions, Buyer shall pay the remainder of the Contract Price.

## ARTICLE 8 - INTEREST

8.01 All monies not paid when due, as provided in Article 10 of the General Conditions, shall bear interest at the rate of 4 percent per annum.

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## ARTICLE 9 - SELLER'S REPRESENTATIONS

- 9.01 In order to induce Buyer to enter into this Agreement, Seller makes the following representations:
- A. Seller has examined and carefully studied the Contract Documents and the other related data identified in the Bidding Documents.
  - B. If specified or if, in Seller's judgment, any local condition may affect cost, progress or the furnishing of the Goods, that may affect cost, progress or the furnishing of the Goods.
  - C. Seller is familiar with and is satisfied as to all industry standards, local federal, state and local Laws and Regulations that may affect cost, progress and the furnishing of the Goods.
  - D. Seller has carefully studied and correlated the information known to Seller with the Contract Documents.
  - E. Seller has given Buyer written notice of all conflicts, errors, ambiguities, or discrepancies that Seller has discovered in the Contract Documents.
  - F. The Contract Documents are generally sufficient to indicate and convey understanding of all terms and conditions for furnishing Goods.

## ARTICLE 10 - CONTRACT DOCUMENTS

### 10.01 *Contents*

- A. The Contract Documents consist of the following:
  - Notice of Award
  - This Agreement
  - Documentation submitted by Seller prior to Notice of Award (including portions of Seller's Bid)
  - Performance Bond
  - Payment Bond
  - Insurance Certificate or other Evidence
  - General and Supplementary Conditions
  - Specifications as listed in the table of contents
  - The following which may be delivered or issued after the Effective Date of this Agreement and are not attached hereto.
    - Notice to Proceed
    - Written Amendment(s)
    - Change Order(s)
    - Field Order(s)
    - Buyer's Written Interpretation(s)

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- B. The documents listed in 10.01.A are attached to this Agreement (except as expressly noted otherwise above.)
- C. There are no Contract Documents other than those listed in this Article 10.
- D. The Contract Documents may only be amended or supplemented as provided in Paragraph 3.04 of the General Conditions.

## **ARTICLE 11 - MISCELLANEOUS**

### *11.01 Defined Terms*

- A. Terms used in this Agreement will have the meanings indicated in the General Conditions and Supplementary Conditions.

### *11.02 Assignment*

- A. No assignment by a party hereto of any rights under or interests in the Contract Documents will be binding on another party hereto without the written consent of the party sought to be bound. Specifically, but without limitation, monies that may become due and monies that are due may not be assigned without such consent (except to the extent that the effect of this restriction may be limited by law). Unless specifically stated to the contrary in any written consent to an assignment, no assignment will release or discharge the assignor from any duty or responsibility under the Contract Documents.

### *11.03 Successors and Assigns*

- A. Buyer and Seller each binds itself, its partners, successors, assigns and legal representatives to the other party hereto, its partners, successors, assigns and legal representatives in respect to all covenants, agreements and obligations contained in the Contract Documents.

### *11.04 Severability*

- A. Any provision or part of the Contract Documents held to be void or unenforceable under any Law or Regulation shall be deemed stricken and all remaining provisions shall continue to be valid and binding upon Buyer and Seller. The Contract Documents shall be reformed to replace such stricken provision or part thereof with a valid and enforceable provision that comes as close as possible to expressing the intention of the stricken provision.

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IN WITNESS WHEREOF, Buyer and Seller have signed this Agreement in duplicate. One counterpart each has been delivered to Buyer and Seller. All portions of the Contract Documents have been signed or identified by Buyer and Seller or on their behalf.

**This Agreement will be effective on \_\_\_\_\_ (Date)**

Buyer: \_\_\_\_\_ Seller: \_\_\_\_\_

By: \_\_\_\_\_ By: \_\_\_\_\_  
[Corporate Seal] [Corporate Seal]

Attest: \_\_\_\_\_ Attest: \_\_\_\_\_

Address for giving notice: Address for giving notice:  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

(If Buyer is a corporation, attach evidence of authority to sign. If Buyer is a public body, attach evidence of authority to sign and resolution or other documents authorizing execution of Buyer-Seller Agreement.)

Agent for service of process:  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

(If Seller is a corporation or a partnership, attach evidence of authority to sign.)

Designated Representative: Designated Representative:  
Name: \_\_\_\_\_ Name: \_\_\_\_\_  
Title: \_\_\_\_\_ Title: \_\_\_\_\_  
Address: \_\_\_\_\_ Address: \_\_\_\_\_  
Phone: \_\_\_\_\_ Phone: \_\_\_\_\_  
Facsimile: \_\_\_\_\_ Facsimile: \_\_\_\_\_  
Email: \_\_\_\_\_ Email: \_\_\_\_\_

**END OF SECTION**

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# Seller's Application For Payment No. \_\_\_\_\_

	Application Period:	Application Date:
To (Buyer):	From (Seller):	
Project:	Contract:	
Buyer's Contract No.:	Seller's Project No.:	

**APPLICATION FOR PAYMENT**

Change Order Summary			
Approved Change Orders			<b>1. ORIGINAL CONTRACT PRICE</b> ..... \$
Number	Additions	Deductions	<b>2. Net change by Change Orders</b> ..... \$
			<b>3. CURRENT CONTRACT PRICE (Line 1 ± 2)</b> ..... \$
			<b>4. TOTAL COMPLETED AND STORED TO DATE</b>
			(Column F on Progress Estimate) ..... \$
			<b>5. RETAINAGE:</b>
			a. _____ % x \$ _____ <b>Goods</b> ..... \$
			b. _____ % x \$ _____ <b>Special Services</b> ..... \$
			c. <b>Total Retainage (Line 5a + Line 5b)</b> ..... \$
			<b>6. AMOUNT ELIGIBLE TO DATE (Line 4 - Line 5c)</b> ..... \$
TOTALS			<b>7. LESS PREVIOUS PAYMENTS (Line 6 from prior Application)</b> ..... \$
			<b>8. AMOUNT DUE THIS APPLICATION</b> ..... \$
NET CHANGE BY			<b>9. BALANCE TO FINISH, PLUS RETAINAGE</b>
CHANGE ORDERS			(Column G on Progress Estimate + Line 5 above)..... \$

**SELLER'S CERTIFICATION**

The undersigned Seller certifies that: (1) all previous progress payments received from Buyer on account of Goods under the Contract have been applied on account to discharge Seller's legitimate obligations incurred in connection with work covered by prior Applications for Payment; (2) title of Goods or otherwise listed in or covered by this Application for Payment will pass to Buyer at time of payment free and clear of all Liens, security interests and encumbrances (except such as are covered by a Bond acceptable to Buyer indemnifying Buyer against any such Liens, security interest or encumbrances); and (3) all Goods covered by this Application for Payment is in accordance with the Contract Documents and is not defective.

Payment of: \$ \_\_\_\_\_  
(Line 8 or other - attach explanation of other amount)

Payment of: \$ \_\_\_\_\_  
(Line 8 or other - attach explanation of other amount)

is approved by: \_\_\_\_\_ (Buyer) \_\_\_\_\_ (Date)

By: \_\_\_\_\_ Date: \_\_\_\_\_ Approved by: \_\_\_\_\_  
Funding Agency (if applicable) \_\_\_\_\_ (Date)



**REQUEST FOR  
INTERPRETATION/INFORMATION**

**RFI #:** \_\_\_\_\_  Attachment

To: \_\_\_\_\_  
Attn: \_\_\_\_\_  
Project: \_\_\_\_\_

From: \_\_\_\_\_  
Issue Date: \_\_\_\_\_  
Required Reply Date: \_\_\_\_\_

**DISTRIBUTION:**

**Seller**

**Buyer**

- |                                |                                |
|--------------------------------|--------------------------------|
| <input type="checkbox"/> _____ | <input type="checkbox"/> _____ |
| <input type="checkbox"/> _____ | <input type="checkbox"/> _____ |
| <input type="checkbox"/> _____ | <input type="checkbox"/> _____ |

**REFERENCES:**

- Specifications: \_\_\_\_\_ Section: \_\_\_\_\_ Page/Paragraph: \_\_\_\_\_
- Drawings: \_\_\_\_\_ Issue Date: \_\_\_\_\_ Detail/Sections: \_\_\_\_\_
- Work Area: \_\_\_\_\_ Grid/Level: \_\_\_\_\_

**RFI DESCRIPTION:**

From: \_\_\_\_\_ Tel No: \_\_\_\_\_ Fax: No: \_\_\_\_\_  
Initial: \_\_\_\_\_ E-mail: \_\_\_\_\_

**RFI REPLY:**

**Possible Cost Effect** Yes:  No:  **Possible Schedule Effect** Yes:  No:

From: \_\_\_\_\_ Reply Date: \_\_\_\_\_ xc: \_\_\_\_\_  
Initial: \_\_\_\_\_

# CHANGE REQUEST (Design Changes/Deviations/Or-Equals/Substitutions)

CR NO.  
DATE

## Project:

Request Initiated by:  
 Seller  
 Buyer

Impact to Contract Price expected   
 Impact to Contract Time expected   
*Change Orders will be processed separately*

Request submitted as (format):

---

Description of Change ( documentation attached)

## Reason for Change

**Response:**  This constitutes a Written Amendment to the Agreement.

Review of the proposed change/deviation/or-equal/substitution by Engineer is for general compatibility with the design concept of the Project and does not extend to design data which is peculiarly within the special expertise of Seller, nor does it extend to means, methods, sequences, or procedures of construction or to issues of safety incident thereto. This review shall not relieve the Seller from its responsibility for full compliance with the requirements specified and to determine and verify the information contained therein.

<p>Approved by Seller  <input type="checkbox"/> Change Order to be requested</p> <p>NAME:</p> <hr/> <p><i>Signature</i> <span style="float: right;"><i>Date</i></span></p>	<p><input type="checkbox"/> Approved by Buyer (no schedule or cost impact)  <input type="checkbox"/> Acknowledged by Buyer – to be processed and approved under a separate Change Order</p> <p>NAME:</p> <hr/> <p><i>Signature</i> <span style="float: right;"><i>Date</i></span></p>
--	---

# Change Order No. \_\_\_\_\_

Date of Issuance:	Effective Date:
Project:	Buyer:
Contract:	Buyer's Contract No.:
Seller:	Date of Contract:
	Engineer's Project No.:
<b>The Contract Documents are modified as follows upon execution of this Change Order:</b>	
Description:	
Attachments: (List documents supporting change):	

<b>CHANGE IN CONTRACT PRICE:</b>	<b>CHANGE IN CONTRACT TIMES:</b>
Original Contract Price:  \$	Original Contract Times: <input type="checkbox"/> Working days <input type="checkbox"/> Calendar days Substantial completion (days or date): Ready for final payment (days or date):
[Increase] [Decrease] from previously approved Change Orders No. ## to No. ##:  \$	[Increase] [Decrease] from previously approved Change Orders No. ## to No. ##: Substantial completion (days): Ready for final payment (days):
Contract Price prior to this Change Order:  \$	Contract Times prior to this Change Order: Substantial completion (days or date): Ready for final payment (days or date):
[Increase] [Decrease] of this Change Order:  \$	[Increase] [Decrease] of this Change Order: Substantial completion (days or date): Ready for final payment (days or date):
Contract Price incorporating this Change Order:  \$	Contract Times with all approved Change Orders: Substantial completion (days or date): Ready for final payment (days or date):

ACCEPTED:	ACCEPTED:
By: _____ Seller (Authorized Signature)	By: _____ Buyer (Authorized Signature)
Date: _____	Date: _____
Approved by Funding Agency (if applicable): _____	Date: _____

# Change Order Instructions

---

## A. GENERAL INFORMATION

This document was developed to provide a uniform format for handling contract changes that affect Contract Price or Contract Times. Changes that have been initiated by a Change Request must be incorporated into a subsequent Change Order if they affect Price or Times.

Changes that affect Contract Price or Contract Times should be promptly covered by a Change Order. The practice of accumulating Change Orders to reduce the administrative burden may lead to unnecessary disputes.

If Milestones have been listed in the Agreement, any effect of a Change Order thereon should be addressed.

For supplemental instructions and minor changes not involving a change in the Contract Price or Contract Times, a Field Order should be used.

## B. COMPLETING THE CHANGE ORDER FORM

Seller normally initiates the form, including a description of the changes involved and attachments based upon documents and proposals submitted by Seller, or requests from Buyer, or both.

Once Seller has completed and signed the form, all copies should be sent to Buyer or Seller for approval, depending on whether the Change Order is a true order to the Seller or the formalization of a negotiated agreement for a previously performed change. After approval by one contracting party, all copies should be sent to the other party for approval. Seller should make distribution of executed copies after approval by both parties.

If a change only applies to price or to times, cross out the part of the tabulation that does not apply.

**SECTION 33 73 20**  
**EQUIPMENT SPECIFICATION**  
**APPENDIX A**

Refer EPS document TS-0002 R0 – Vacuum Circuit Breaker 15KV 3000 Amp, and TS-003 R0 – Miscellaneous Equipment for technical requirements.

**END OF SECTION**





## Contents

GENERAL .....	4
1.1. Summary .....	4
1.2. Location.....	4
1.3. Related Documents .....	4
1.4. References .....	4
1.5. Quality Assurance .....	5
1.6. Submittals.....	5
1.7. Approval Drawings .....	5
1.8. Final Drawings.....	6
1.9. Delivery, Storage, and Handling .....	7
1.10. Warranty.....	8
PRODUCTS .....	8
2.1. Manufacturer .....	8
2.2. General.....	8
2.3. Breaker Ratings.....	8
2.4. Design .....	8
2.5. Transient Overvoltage Factor .....	9
2.6. Operating Mechanism .....	9
2.7. Operating Mechanism Compartment.....	9
2.8. Auxiliary Power and Control Wiring .....	9
2.9. Low Voltage Compartment.....	10
2.10. High Voltage Compartment.....	10
2.11. Auxiliary Power and Control Wiring.....	10
2.12. Included Equipment .....	11
2.13. Trip Coil.....	11
2.14. Closing Coil.....	11
2.15. Remote Indication and Control.....	11
2.16. Interface Terminal Blocks.....	11
2.17. Bushings and Current Transformers .....	11
2.18. Bushing Current Transformers (BCT) .....	11
2.19. Bushing Current Transformers Secondary Leads .....	11
2.20. Bushing Current Transformers Thermal Rating Factor .....	12



2.21.	Specific Bushing Current Transformer Configuration .....	12
2.22.	Auxiliary Switch Contacts .....	12
2.23.	Alarm Contacts.....	12
2.24.	Operation Counter.....	12
2.25.	Mechanical Position Indicator.....	12
2.26.	Maintenance Closing Device and Tools .....	12
2.27.	Nameplate Information .....	12
2.28.	Paint and Color .....	12
2.29.	Fasteners and Hardware.....	13
2.30.	Mounting Provisions .....	13
2.31.	Dynamic Analysis.....	14
2.32.	Maximum Stresses.....	14
2.33.	Equivalent Design Analyses.....	14
	Appendix A – Breaker Ratings .....	15
	Appendix B – Supporting Drawings.....	16

## GENERAL

### 1.1. Summary

- A. The work specified in this section includes, but shall not be limited to, providing labor, material, equipment, and services necessary to furnish (qty 1) outdoor rated medium voltage circuit breaker with a nominal voltage rating of 15kV and minimum continuous current rating of 3000 amps.
- B. Provide breaker delivered to site within 16-18 weeks ARO.

### 1.2. Location

- A. Breaker to be installed in the City of Azusa, California.

### 1.3. Related Documents

- A. The requirements of the Owner's Contract Terms and Conditions apply to work in this Section.

### 1.4. References

- A. The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by the basic designation only.
- B. The edition/revision of the referenced publications shall be the latest date as of the following publications shall be used in conjunction with this specification and form a part of this specification to the extent specified herein.
- C. When a referenced publication is superseded by an approved revision, the revision shall apply. Referenced industry publications are listed below.
  - a. ANSI C37.04, Standard Rating Structure for AC High-Voltage Circuit Breakers Rated on a symmetrical Current Basis
  - b. ANSI/IEEE C37.06, Standard for Switchgear AC High Voltage Circuit Breakers Rated on a symmetrical Current Basis
  - c. ANSI/IEEE C37.11, Standard Requirement for Electrical Control for AC High Voltage Circuit Breakers Rated on a Symmetrical Current Basis. ASME BPVC, Boiler and Pressure Vessels Code
  - d. ANSI/IEEE C37.010, IEEE Application Guide for AC High-Voltage Circuit Breakers Rated on a Symmetrical Current Basis
  - e. OSHA, Occupational Safety and Health Administration.
  - f. ANSI/IEEE 100, IEEE Standard Dictionary of Electrical and Electronics Terms.
  - g. ANSI/NFPA 70 and National Electrical Code
  - h. ANSI/IEEE C2, National Electrical Safety Code
  - i. IEEE 693, Recommended Practice for Seismic Design of Substations

**1.5. Quality Assurance**

- A. Manufacturer's Qualifications: Manufacturer shall be engaged in manufacture of medium voltage circuit breakers of types and sizes required, and whose products have been in satisfactory use in similar service for not less than five years.
- B. Compliance: Comply with applicable requirements of AEIC, ASTM, ICEA, IEEE, NEMA, NFPA, and UL standards referenced in Article 1.03 - References, and NEC.

**1.6. Submittals**

- A. Product Data: Submit manufacturer's product information showing material proposed. Submit sufficient information to determine compliance with the drawings and specifications.
- B. Operation & Maintenance Manuals: Prepare complete operating and maintenance manuals to be submitted with approval drawings. Provide information pertinent to the testing and maintenance of cables.
- C. Factory Tests: Submit five (5) certified copies of the certified test reports.
- D. Spare parts list recommended.

**1.7. Approval Drawings**

- A. The breaker manufacturer shall submit drawings within 6 weeks ARO in AutoCAD format plus a Portable Document Format (PDF) electronic format. To expedite the approval process, electronic copies shall be sent by email. The Engineer will review these for general layout only and return to Bidder with comments.

After the Bidder receives a copy of the drawings as noted by the Engineer, he will then correct the drawings and will then furnish the Engineer updated drawings and instructions covering the devices to be furnished.

- B. Drawings shall be emailed to:

Owner's Engineer  
Landon Quick  
EPS Engineering & Design, Inc.  
1338 E. Kingsley St., Suite B  
Springfield, MO 65804  
Phone: 417-886-4840  
Fax: 417-886-4842  
Email: [l.quick@eps-ed.com](mailto:l.quick@eps-ed.com)

Owner  
Hien K. Vuong, PE  
Assistant Director of Utilities- Electric Operations  
City of Azusa, Light & Water  
729 N. Azusa Avenue  
Azusa, CA 91702  
Phone: 626-812-5172  
Email: [hvuong@azusaca.gov](mailto:hvuong@azusaca.gov)

- C. The drawings and information shall be submitted for Owner approval shall include but not be limited to the following:
- Nameplate drawing.
  - Outline drawing showing location of secondary terminal enclosure, conduit entry provisions, HV connection detail and Ground connection detail.
  - Electrical drawings showing winding and secondary connections
- D. The approval drawings shall include the following information:
- Supplier's name.
  - Owner's Contract and release number.
  - Owner's equipment number.
  - Description of drawing (Title).
  - Latest revision and date.
- E. Drawings shall be ANSI D, 22 x 34 inches. All values on drawings shall be shown in U.S. customary units only, or in both U.S. Customary and SI units in parenthesis.
- F. Within two (2) weeks after review by Owner, one print of each drawing will be returned to the Supplier with a letter designating the approval status of each drawing. The Owner approval status given to a drawing will be one of the following: "approved," "approved as shown" or "not approved." Approval by Owner shall in no way abrogate the requirements of these Specifications. The Supplier shall be responsible for furnishing a complete, coordinated and integrated design which, when finished, shall be workable and consistent with the requirements of these Specifications.
- G. If a drawing is designated "approved", the Supplier may proceed with the work covered by the drawing.
- H. If a drawing is designated "approved as shown", the Supplier may proceed with the work covered by the drawing and the corrections shown. However, the Supplier shall promptly revise the drawing in accordance with the corrections shown and resubmit electronic copy of the revised drawing to Owner.
- I. If a drawing is designated "not approved", the Supplier shall revise the drawing to comply with the requirements of the Contract and resubmit electronic copy of the revised drawing to Owner.

### **1.8. Final Drawings**

- A. Three (3) sets of final drawings shall be furnished as follows: one set shall be attached and shipped with the equipment in a weatherproof envelope or control compartment, two sets shall be sent to Owner listed in Section 1.7 of this specification.
- B. One additional set shall be furnished via email and on a CD containing applicable drawings in AutoCAD format plus a PDF electronic format.

- C. All instruction manuals and non-drawing documents shall be provided in PDF format and supplied on the disks and via email.
- D. Disks shall be sent to Owner listed in Section 1.7 of this specification.
- E. All documents and instruction manuals supplied shall be in English. Documents shall bear purchase order number and facility or project reference in the title block.
- F. Each set of drawings and instruction books for breakers shall be bound and shall be indexed for proper reference

### **1.9. Instruction Books**

- A. Within four (4) weeks from the date of drawing approval, one (1) electronic copy of the detailed instruction books with the record drawings for each type of equipment furnished under these specifications shall be submitted for Owner approval.
- B. These books and files shall be accompanied by a letter of transmittal and shall contain all illustrations, assembly drawings, outline drawings, wiring diagrams, replacement parts list that includes part number identification, a list of recommended spare parts, and instructions necessary for storing, installing, operating and maintaining the equipment. The illustrated parts shall be numbered for identification. All information contained therein shall apply specifically to the equipment furnished and shall not include instructions not applicable. Photographs, ozalids, Xerox, and similar types of reproductions shall be attached to pages. All illustrations shall be incorporated within the print of the page to form a durable and permanent reference book.
- C. Owner shall inform the Supplier six (6) weeks after receipt of the instruction books either that they are "approved" or "approved as shown". If they are "approved", the Supplier shall promptly furnish two additional sets identical to the submitted copy. If there are corrections needed, one set will be returned to the Supplier. The corrections needed shall be promptly incorporated in the instruction books and a total of two (2) complete, identical hard copy sets and one (1) electronic set of such revised instruction books shall be furnished to Owner.
- D. One identical hard copy of the instruction book shall be shipped with breaker. The instruction book shall be protected from the environment.

### **1.10. Delivery, Storage, and Handling**

- A. The breaker shall be shipped fully assembled (bushings installed).
- B. Lifting for loading, unloading and site assembly shall utilize designed lifting provisions on the breaker frame only.
- C. Manufacture shall use only air-ride trucks. Manufacture shall provide all necessary equipment and personal to unload the breakers at the job site. The manufacture may coordinate with the construction contractor for assistance to unload the breakers at the job sit.

**1.11. Warranty**

- A. Work and equipment involved in the provision of the Medium Voltage Distribution Circuit Breakers shall be warranted for a minimum period of (3) years from the date energized and in-service.
- B. If manufacturer's warranty offers coverage for a period of time longer than 3 years, then that period of time shall govern the length of the warranty. The manufacturer shall submit the warranty in writing.

**PRODUCTS****2.1. Manufacturer**

- A. Manufacturers' products of equivalent quality, dimensions and operating features may be acceptable, at the Owners' if they comply with requirements specified or indicated in these Contract documents.
- B. Subject to compliance with requirements, provide products of one of the following:
- C. Qty (1), Siemens SDV7

**2.2. General**

- A. The circuit breaker shall employ a vacuum bottle interrupter. Circuit breaker shall be an outdoor, free standing, cabinet style, three-pole, 60 Hertz, dead-tank design. Energized parts shall be contained within an air-insulated enclosure, with six vertically mounted entrance bushings.

**2.3. Breaker Ratings**

- A. See Appendix A

**2.4. Design**

- A. The circuit breaker shall be vacuum interrupter type, outdoor, three-pole, 60-hertz, dead tank, with a separate supporting frame, high voltage, and low voltage compartments. The interrupting medium shall be a hermetically sealed vacuum interrupter, in an air-insulated high voltage compartment.
- B. Project Specific Conditions
  - Elevation: 610 ft.
  - Location: City of Azusa, CA
- C. The wind and seismic withstand capability of this circuit breaker shall be in complete accordance with the latest applicable industry codes, and ANSI, ASTM, IEEE, and NEMA standards in effect on the date of purchase.
- D. Ambient Temperature Conditions
- E. The circuit breaker shall be rated for ambient temperature between -50 deg. C and +70 deg. C.

- F. The circuit breaker shall be capable of an initial OPEN-CLOSE-OPEN operation cycle without derating. The circuit breaker shall meet standard operating duty requirements. The circuit breaker shall be capable of repeated operations with a maximum of a 15 second interval between the operations, i.e. OPEN-0.3 sec-CLOSE-OPEN-15 sec-CLOSE-OPEN.

## **2.5. Transient Overvoltage Factor**

- A. The circuit breaker shall be capable of de-energizing capacitor banks, transformers, and transmission lines with charging currents. For interruption of overhead line charging current, the breaker minimum switching rating shall be 100 A rms, and the minimum rated transient overvoltage factor shall be C1. These ratings may be revised after complete design of reactive compensation (if required).

## **2.6. Operating Mechanism**

- A. The circuit breaker shall be furnished with one operating mechanism for all three poles and shall be suitable for 3-pole opening and closing operations.
- B. The operating mechanisms shall be one of the following stored-energy types: magnetic, spring, hydraulic, or spring-hydraulic. The mechanisms shall be trip-free and anti-pumping.
- C. Provide a mechanically linked visible indicator on the front of the mechanism to indicate the spring condition as either “Spring Charged” or “Spring Discharged.”
- D. Provide visible Red and Green Indicating Lamps
- E. Provide a manually operated “Push to Close” actuator to discharge the closing springs and close the primary contacts. Also, provide a manual trip lever, external to the low and high voltage compartments to actuate emergency tripping.
- F. Include 43L/R switch mounted in breaker.

## **2.7. Operating Mechanism Compartment**

- A. A NEMA 3R compartment with door gaskets shall be furnished to house the operating mechanism, including its associated charging motor or pump. The supplier shall furnish connections between this compartment and the high voltage compartment.

## **2.8. Auxiliary Power and Control Wiring**

- A. Auxiliary power and control wiring shall consist of stranded copper wire, 600-volt class, with insulation (or outer covering over the insulation) that is flame-retardant, heat-resistant, oil-resistant, and moisture-resistant. Wire terminations shall be made on suitable terminal blocks, no wires shall be spliced.
- B. Both ends of wires and terminal block points shall be clearly marked with the designation shown on the supplier’s wiring diagrams. Interface terminal blocks shall be one-piece molded type, rated 600 volts, 30 amperes, equipped with #10-32 washer-head binder screws, and suitable for wire sizes #18 through #10 AWG. Wires terminated on these blocks shall have non-insulated ring-type terminals.

## 2.9. Low Voltage Compartment

- A. A NEMA 3R low voltage compartment with door gaskets shall be furnished directly beneath the high voltage compartment to house control equipment and terminal blocks for terminating auxiliary wiring. The low voltage compartment may house both the operating mechanism and the control devices.
- B. External auxiliary power and control wiring shall enter through a 6-inch x 6-inch feed-through wire way or multi-conduit system to the low voltage compartment; the compartment shall be furnished with a removable bottom plate for cutting/drilling in the field. The compartment door shall be vertically hinged, removable, and operated by a single handle through a three-point latching system. Each door shall be equipped with wind-stop hardware to secure the door while open. Door hardware shall be stainless steel.
- C. The controls, terminal blocks, and other devices requiring access for operation and maintenance shall be mounted in the compartment at a height less than 6-feet above foundation level. The bottom of the compartment shall be not less than 2-feet above foundation level.
- D. The compartment shall be furnished with two space heaters. Each heater shall be controlled by a separate ON-OFF switch and a separate thermostat. The thermostats shall be adjustable, and the adjustment provisions shall include clear indication of at least three specific temperatures on the adjustment range.
- E. The compartment shall be furnished with one 120 VAC, 20 Amp, duplex convenience receptacle.

## 2.10. High Voltage Compartment

- A. The high voltage compartment shall be separated from the low voltage compartment with an arc-resistant steel barrier. This compartment shall be a NEMA 3R rated enclosure, containing the interrupters, current transformers, bushings, and interconnecting bus work. Open bus, if any, shall be coated with an insulating material providing full withstand voltage capability. Joints shall be booted with a similarly rated removable material. The compartment doors shall be secured with pentahead captive hardware.

## 2.11. Auxiliary Power and Control Wiring

- A. All internal components to be listed by UL for the intended use.
- B. The trip circuits and close circuit shall be 48 VDC. The actuator, spring charging motor or pump, and heaters shall operate at 48 VDC. The circuit breaker shall be equipped for operation with the AC or DC power supplies. Owner will provide the AC and DC power.
- C. Two fused, 30-ampere minimum, 250-volt, double-pole, single-throw, knifeblade-type, gang-operated disconnect switches shall be furnished for isolating DC control power circuits from the control power source during maintenance. The switches must provide a means of preventing the electrical operation of the circuit breaker by any trip or close input. A separate fused knife switch shall be furnished for AC auxiliary circuits.



**2.12. Included Equipment**

- A. Mechanism equipment including piping and linkages shall be factory installed as completely as possible. The supplier shall furnish materials for connections which must be installed in the field.

**2.13. Trip Coil**

- A. Operating mechanism shall be furnished with DC trip coil.
- B. The primary trip coil and the close circuit shall be included in one control circuit.
- C. Trip coil shall be rated at 48 VDC and shall operate correctly for a range of 27-54 VDC, unless specified otherwise in "Equipment Specific" section.

**2.14. Closing Coil**

- A. The close coil shall be rated at 48 VDC and shall operate correctly for a range of 35-54 VDC, unless specified in "Equipment Specific" section.

**2.15. Remote Indication and Control**

- A. The circuit breaker shall be equipped with the necessary terminal blocks, auxiliary switches, auxiliary relays, coils, contacts, and other auxiliary equipment connected to the control system, to permit remote control and indication by Owner control equipment.

**2.16. Interface Terminal Blocks**

- A. The Owner control cables shall terminate on independent, 12-point terminal blocks. These terminal blocks shall be furnished by the manufacturer in the low voltage compartment. The control and alarm cable, and auxiliary cable terminal blocks shall be wired for a 3-pole group operated circuit breaker.

**2.17. Bushings and Current Transformers**

- A. Bushings shall be ANSI No. 70, light gray porcelain, with stud type terminals. A 4-hole NEMA pad, four (4) inches wide, shall be supplied with each bushing. Terminal shall be tinned bronze.
- B. Bushings shall have a minimum flange seat to lower end length of 11 inches, with a minimum creepage distance of 17-½ inches.

**2.18. Bushing Current Transformers (BCT)**

- A. Bushing Current Transformers (BCT) shall be 5-tap, multi-ratio, with full winding ratios unless otherwise noted.

**2.19. Bushing Current Transformers Secondary Leads**

- A. BCT secondary leads shall be wired to 6-point short-circuiting type terminal blocks in the low voltage compartment. A separate terminal block, complete with shorting screws, shall be furnished for each BCT. BCT secondary leads shall be #10 AWG single conductor cable

**2.20. Bushing Current Transformers Thermal Rating Factor**

- A. Bushing current transformer shall have a minimum one-second Thermal Rating Factor of 90 time rated current, 1.5 time rated current continuously.

**2.21. Specific Bushing Current Transformer Configuration**

- A. See Appendix A

**2.22. Auxiliary Switch Contacts**

- A. Auxiliary switch contacts will be used for indicating, interlocking, and alarming, and shall have current carrying capacity sufficient for the operation of the associated circuit breaker and indicating lights, as well as supervisory interposing relays (15A CC is typical). Form-A and Form-B contacts shall not be closed at the same time. If the circuit breaker is closed into a fault and trips open, the Form-B contacts shall remain open for a minimum of 0.025 seconds.
- B. Each operating mechanism shall be furnished with 16 spare auxiliary switch contacts (8 Form-A and 8 Form-B) wired to a separate terminal block in the control compartment.

**2.23. Alarm Contacts**

- A. The circuit breaker shall have alarm contacts wired to the alarm terminal board for failure of components critical to breaker operation. Contacts shall be isolated, normally open, dry, ungrounded contacts that close on alarm.

**2.24. Operation Counter**

- A. Each operating mechanism shall have an operation counter arranged to count opening operations.

**2.25. Mechanical Position Indicator**

- A. Each operating mechanism shall have a visual mechanical position indicator effectively connected to the operating mechanism. Green shall indicate open, and red shall indicate closed.

**2.26. Maintenance Closing Device and Tools**

- A. The circuit breaker shall have a maintenance closing device, if applicable, and any special tools required for installation and maintenance.

**2.27. Nameplate Information**

- A. Circuit breaker nameplates and instruction plates shall show values in U. S. customary units. Nameplate text shall be in English.

**2.28. Varmint Control**

- A. Bid shall include option for specially fitted varmint control accessories.

**2.29. Paint and Color**

- A. The finish on painted metal parts shall be light gray. Furnish one quart of touch-up paint per circuit breaker.
- D. Cast aluminum, aluminum, and stainless-steel components shall be left in their natural finish.

**2.30. Fasteners and Hardware**

- A. External fasteners and hardware (such as bolts, screws, hinges, and handles) shall be stainless steel.

**2.31. Mounting Provisions**

- A. The circuit breaker shall be supplied with four steel mounting legs, one at each corner of the compartment, which can be field adjusted to the desired height. The minimum height to the base of the entrance bushings shall be 8-feet. Provide a connection point on two opposite legs for NEMA 2-hole ground connection.

**2.32. Dynamic Analysis**

- A. For the dynamic seismic analysis, the seismic event shall be represented by dynamic characteristics, with the specified maximum horizontal and vertical ground accelerations, using the response spectra in the pertinent section of IEEE 693, which corresponds to the seismic performance level specified in the “Project Specific” section. The analysis shall consider the essential natural frequencies and damping of the equipment.

**2.33. Maximum Stresses**

- A. Stresses determined from the wind and seismic analyses shall not exceed 133-percent of allowable code stresses for ductile materials or 50-percent of ultimate strength for bushings and insulators. Equipment drawings shall indicate the maximum foundation reactions generated from the analyses.

**2.34. Equivalent Design Analyses**

- A. Wind and seismic analyses completed previously on the equipment design will be acceptable, provided that the wind and seismic conditions used for the analyses are equal to or more stringent than listed above, and that information pertaining to the equipment is similar.

## Appendix A – Breaker Ratings

### Breaker Ratings

The circuit breaker shall be rated as follows:

Nominal Voltage Rating	12.47kV rms
Maximum Continuous Voltage	13.1kV rms
Power Frequency Withstand Voltage, Dry	36kV rms
Full Wave Impulse Withstand (BIL)	95kV crest
Continuous Current Rating	3000A rms
Short Time Current (3 Seconds)	40kA rms sym
Interrupting Current Rating	40kA rms sym
Voltage Range Factor, K	1.0
Max. Line Charging Switching Current	100A
Max. Interrupting Time	3.5 Cycles
Rated Frequency	60 Hz

### Specific Bushing Current Transformer Configuration

Bushing Current Transformers			
Bushing	Position	Ampere Ratio	Class
1,3,5	TOP	3000:5 MR	C400
2,4,6	TOP	3000:5 MR	C400

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## Appendix B – Supporting Drawings

Supporting Drawings attached separately:

D-4001 – SOUTH BUS TIE 12KV-AC & DC SCHEMATIC DIAGRAM

ED92-0002 – AZUSA SUBSTATION-SINGLE LINE DIAGRAM



## Contents

PURPOSE .....	3
1.1. Summary .....	3
CONFORMANCE TO SPECIFICATION .....	3
2.1. General .....	3
2.2. Applicable Documents .....	3
2.3. Environmental Requirements .....	3
2.4. Acceptance Requirements .....	4
2.5. Inspection .....	4
2.6. Exception to Specification .....	4
2.7. Specification Interpretation .....	4
2.8. Warranty .....	4
GENERAL REQUIREMENTS .....	5
3.1. Address and Correspondence .....	5
3.2. US Standard .....	5
3.3. Workmanship .....	6
3.4. Design and Material .....	6
3.5. Approval Drawings .....	6
3.6. Final Drawings .....	8
3.7. Instruction Books .....	8
3.8. Testing and Test Reports .....	8
3.9. Special Tools .....	10
3.10. Cleaning and Galvanizing .....	10
3.11. Shipping Requirements .....	10
TECHNICAL REQUIREMENTS .....	11
4.1. General .....	11
4.2. Surge Arrester Housing .....	11
4.3. Grading Rings .....	<b>Error! Bookmark not defined.</b>
4.4. Nameplate .....	11
4.5. Hardware .....	11
4.6. Terminals .....	11
APPENDIX A – FEEDER SURGE ARRESTER DATA SHEET .....	13
APPENDIX B – 1200A HOOKSTICK SWITCH DATA SHEET .....	14
APPENDIX C – 1200A TANDEM TRANSFER SWITCH DATASHEET .....	15
APPENDIX D – 3000A HOOKSTICK SWITCH DATASHEET .....	16



## PURPOSE

### 1.1. Summary

A. This Specification defines the technical requirements for the Surge Arresters to be designed and manufactured for installation and satisfactory operation outdoors under the conditions set in the Contract documents. The equipment to be furnished is as follows:

- Three (3) Surge Arresters
- Three (3) Hookstick Switches, 1200A
- Three (3) Tandem Transfer Switches, 1200A
- Six (6) Hookstick Switches, 3000A

B. Ratings for the equipment listed above are fully defined in appendix A of this document.

## CONFORMANCE TO SPECIFICATION

### 2.1. General

A. Any and all deviations from this Specification shall be clearly explained by the Supplier and approved in writing by the Owner prior to releasing the equipment for manufacture. It shall be the responsibility of the Supplier to inform Owner of any information not included in this Specification that will impair the product's intended performance.

### 2.2. Applicable Documents

A. Except as modified herein, the surge arrester covered by this specification shall be designed and manufactured for installation and satisfactory operation outdoors under the conditions set forth below. Surge arresters furnished under these specifications shall be in accordance with all the requirements of the latest applicable ANSI, NEMA, IEEE, ASTM and Federal "Occupational Safety and Health Association" standards.

### 2.3. Environmental Requirements

- A. The surge arresters will be installed in a substation at the City of Azusa, CA. The elevation above sea level is  $\pm 610$  feet. The ambient temperature range is 0° F to 120°F. Basic wind speed (nominal 3s gust wind speeds at 33 ft above ground) is 105 mi/hr.
- B. The equipment shall be installed in a southwest California urban environment that contains moderate pollution. Annual rainfall is 12 inches per year. The equipment will be exposed to high ambient sunlight.
- C. The equipment and support stands shall meet the seismic qualification level provided in the Work Scope document and appendices of this document. The equipment and the accessories shall be designed in accordance with the latest revision of ASCE 113.

## **2.4. Acceptance Requirements**

- A. Equipment purchased under this Specification shall meet the requirements specified herein.
- B. The equipment shall be satisfactory to Owner in design and operation. If in the opinion of Owner, the equipment is not in accordance with this Specification, the Supplier shall conform as required, with no cost to Owner.

## **2.5. Inspection**

- A. Authorized representatives of Owner shall at all times have the right to inspect the work and Supplier shall make plant available to Owner personnel for such inspections. The Supplier shall give Owner a minimum of ten (10) days advance notice prior to factory testing and shipping.
- B. All tests are subject to Owner approval. When specific tests or inspections are required, work on the equipment shall not proceed until Owner has made or waived the inspection option.
- C. Material or equipment identified for inspection shall not be released for shipment until equipment has satisfactorily passed the Owner's inspection and tests.

## **2.6. Exception to Specification**

- A. Any and all deviations from this Specification shall be clearly explained by the Supplier. Any deviations from this Specification must be approved in writing by the Owner. It shall be the responsibility of the Supplier to inform Owner of any information not included in this Specification, which will impair the product's intended performance.

## **2.7. Specification Interpretation**

- A. The Supplier shall make adequate inspections and tests to verify that the material to be furnished is strictly in accordance with the Specifications. In addition, Owner's Representative may inspect and accept or reject the material furnished under this Specification at the Supplier's plant, or at the construction site.
- B. The Supplier of the proposed surge arresters, if in doubt as to the true meaning of any part of this Specification, or finds discrepancies in or omissions from said Specification, may submit his request for a written interpretation or correction thereof. Any request for a written interpretation should be made to the Owner.

## **2.8. Warranty**

- A. The Manufacturer shall warrant each unit to be free of defects and workmanship for a period of one (1) year from energization or eighteen (18) months after delivery whichever is sooner. Any defects or repairs shall be performed by the Manufacturer at no charge to the Owner. The warranty shall be transferable throughout the warranty period.

## GENERAL REQUIREMENTS

### 3.1. Address and Correspondence

A. All correspondence with the Owner shall take place through the successful Supplier.

### 3.2. US Standard

- A. All drawings, manuals, instruction books, calculations, seismic qualification reports, etc. shall be written in English, with English units and ANSI/IEEE standard symbols.
- B. All auxiliary equipment shall be ANSI/NEMA standard, UL certified where applicable. Replacement parts shall be readily available in the US market.
- C. All equipment and materials shall conform with the latest revisions and supplements of all applicable codes and standards including but not limited to the following:
- ANSI B18.2.1 - Square and Hex Bolts and Screw Inch Series
  - ANSI B18.2.2 - Square and Hex Nuts (Inch Series)
  - ANSI C29.1 - Test Methods for Electrical Insulators
  - ANSI C29.8 - Wet-Process Porcelain Insulators - Apparatus, Cap and Pin Type
  - ANSI C29.9 - Wet Process Porcelain Insulators, Apparatus, Post Type
  - ANSI C37.30 - Definitions and Requirements for High Voltage Air Switches Insulators, and Bus Supports
  - ANSI C37.32 - Schedules of Preferred Ratings, Manufacturing, Specifications, and Application Guide for Air Switches, Bus Supports, and Switch Accessories
  - ANSI Z55.1 - Gray Finishes for Industrial Apparatus and Equipment
  - ASTM A90 - Test Method of Weight of Coating on Zinc-Coated (Galvanized) Iron or Steel Articles
  - ASTM A123 - Zinc (Hot-Dip-Galvanized) Coatings on Iron and Steel Products
  - ASTM A153 - Zinc Coating (Hot-Dip) on Iron Steel Hardware
  - ASTM A239 - Test Method for Locating the Thinnest Spot in a Zinc (Galvanized) Coating on Iron
  - ASTM B211 - Aluminum-Alloy Bars, Rods, and Wire (Alloy 990A)
  - ASTM B230 - Aluminum Wire, 1350-H19 for Electrical Purposes
  - ASTM B231 - Aluminum Conductors, Concentric-Lay-Stranded
  - ASTM B232 - Aluminum Conductors, Concentric-Lay-Stranded, Steel Reinforced (ASCR)
  - ASTM B241 - Specification for Aluminum - Alloy Seamless Tube
  - ASTM B317 - Extruded Aluminum-Alloy Bars, Rods, Pipe, and Structural Shapes for Electrical Purposes
  - ASTM B326 - Aluminum Bars for Electrical Purposes (Bus Bars)
  - IEEE 21 - Apparatus Bushing Standards and Test Code
  - IEEE 22 - Air Switches, Insulator Units, and Bus Supports
  - NEMA CC1 - Electronic Power Connectors
  - NEMA SG1 - Electric Power Connectors

- NEMA SG6 - Power Switching Equipment
- NEMA LA1 - Lightning Arresters
- NEMA MG1 - Motors and Generators
- NEMA HV1 - High Voltage Insulators
- NEMA EI-21.2 - Instrument Transformers
- NEMA 107 - Methods of Measurement of Radio Influence Voltage (RIV) of High-Voltage Apparatus
- NESC - National Electric Safety Code
- NFPA 70 - National Electric Code
- OSHA - Occupational Safety and Health Act
- UL 94 - UL Standard for Safety for Flammability of Plastic Materials for Parts in Devices and Appliances

### **3.3. Workmanship**

- A. All work must be done and completed in a thorough, workmanlike manner by personnel skilled in their various trades, notwithstanding any omission from the drawings or Specification. All parts shall be made accurately to standard gauge so that replacements and repairs may be made when necessary with the least possible expense.

### **3.4. Design and Material**

- A. All materials used in this equipment shall be new and of the highest quality. All components and workmanship must be free from physical and electrical flaws and imperfections. The design shall not only be effective in all engineering characteristics, it must also be pleasing in appearance and finish.
- B. The equipment, in accordance with this Specification, shall be satisfactory to Owner in design and structure. If in the opinion of Owner, the equipment is not in accordance with this Specification, the Supplier shall conform as required.
- C. Newly developed equipment with less than three years actual service will be considered from established manufacturers only if it has been adequately tested, meets the requirements of this Specification, and is approved by Owner.

### **3.5. Approval Drawings**

- A. The supplier shall submit drawings within 6 weeks ARO in AutoCAD format plus a Portable Document Format (PDF) electronic format. To expedite the approval process, electronic copies shall be sent by email. The Engineer will review these for general layout only and return to Bidder with comments.
- After the Bidder receives a copy of the drawings as noted by the Engineer, he will then correct the drawings and will then furnish the Engineer updated drawings and instructions covering the devices to be furnished.

B. Drawings shall be emailed to:

Owner's Engineer

Landon Quick

EPS Engineering & Design, Inc.

1338 E. Kingsley St., Suite B

Springfield, MO 65804

Phone: 417-886-4840

Fax: 417-886-4842

Email: [l.quick@eps-ed.com](mailto:l.quick@eps-ed.com)

Owner

Hien K. Vuong, PE

Assistant Director of Utilities- Electric Operations

City of Azusa, Light & Water

729 N. Azusa Avenue

Azusa, CA 91702

Phone: 626-812-5172

Email: [hvuong@azusaca.gov](mailto:hvuong@azusaca.gov)

C. The drawings and information shall be submitted for Owner approval shall include but not be limited to the following:

- Outline drawing
- Mounting requirements
- Insulator General Dimensions
- Anchor calculations for the insulator mounted on frame meeting the seismic and anchoring requirements.
- Assembly drawings and description of the insulator assemblies.

D. The approval drawings shall include the following information:

- Supplier's name.
- Owner's Contract and release number.
- Owner's equipment number.
- Description of drawing (Title).
- Latest revision and date.

E. Within two (2) weeks after review by Owner, one print of each drawing will be returned to the Supplier with a letter designating the approval status of each drawing. The Owner approval status given to a drawing will be one of the following: "approved," "approved as shown" or "not approved." Approval by Owner shall in no way abrogate the requirements of these Specifications. The Supplier shall be responsible for furnishing a complete, coordinated and integrated design which, when finished, shall be workable and consistent with the requirements of these Specifications.

F. If a drawing is designated "approved", the Supplier may proceed with the work covered by the drawing.

G. If a drawing is designated "approved as shown", the Supplier may proceed with the work covered by the drawing and the corrections shown. However, the Supplier shall promptly revise the drawing in accordance with the corrections shown and resubmit electronic copy of the revised drawing to Owner.

H. If a drawing is designated "not approved", the Supplier shall revise the drawing to comply with the requirements of the Contract and resubmit electronic copy of the revised drawing to Owner.

### **3.6. Final Drawings**

- A. Final drawings shall be furnished via email in AutoCAD format plus a PDF electronic format.
- B. Drawings and manuals shall be sent to Owner listed in Section 3.5 of this specification.
- C. All documents supplied shall be in English. Documents shall bear purchase order number and facility or project reference in the title block.

### **3.7. Instruction Books**

- A. Within four (4) weeks from the date of drawing approval, one (1) electronic copy of the detailed instruction books with the record drawings for each type of equipment furnished under these specifications shall be submitted for Owner approval.
- B. One identical hard copy of the instruction book shall be shipped with each type of equipment. The instruction book shall be protected from the environment.

### **3.8. Testing and Test Reports**

- A. Owner shall have the right to request specific tests if necessary provided such tests will not delay the production process.
- B. The Supplier shall furnish, at the Supplier's own expense, necessary facilities and test equipment for the required tests.
- C. The Supplier shall notify Owner not less than two weeks in advance of the day when:
  - Manufacture or fabrication starts.
  - The product is ready for testing.
  - The finished product is ready for inspection.
- D. Should Owner elect to waive the right of inspection, or of witnessing tests, and accept certified test reports instead, Owner will promptly inform the Supplier.
- E. Owner shall have the right to inspect the Supplier's work during production to witness tests. Supplier shall make his plant available to Owner's personnel for such.
- F. Owner shall retain the right to attend any Factory witness tests. The test procedure shall be subject to review and acceptance by Owner. The Supplier shall bear all costs of such tests except for the compensation and expenses of the Owner representative.
- G. Copies of all certified test reports shall be furnished to Owner for review. Owner will inform the Supplier within three (3) weeks after the receipt of the certified test reports either that there are no exceptions noted or that the test results show noncompliance with the Specifications.

- H. Materials or equipment to be inspected by the at the Supplier's factory, yard, or warehouse shall not be released for shipment until they have satisfactorily passed the Owner engineer's inspection and test.
- I. Design tests shall be conducted in accordance with the applicable National Standards and the requirements specified herein. The Supplier shall either perform actual design tests on each surge arrester of each type, to be furnished hereunder. All such certified test reports shall be furnished with the testing schedule submitted for review. If design tests are to be performed, they shall be in accordance with the requirements specified hereinafter.
- J. Manufacturer shall test at the manufacturing facility on each arrester in accordance with IEEE Standard C62.11 - Metal-Oxide Surge Arresters for AC Power Circuits (> 1kV). Tests shall include but not be limited to the following:
- Partial discharge test at 1.05 times MCOV.
  - Power frequency test at 1.20 times MCOV.
  - Discharge voltage test.
  - Sealing effectiveness test of housing.
  - The complete installation RIV level (including electrical and mechanical hardware) shall not exceed 250 microvolts and shall be free from all visible corona.
- K. Factory production tests shall be performed on each insulator, and shall be in accordance with ANSI Standards C29.1, C29.8 and C29.9 and as follows:
1. Insulator flashover test shall be performed in accordance with the latest version of ANSI Standards C29.1, C29.8 and C29.9, as appropriate for the particular types of insulators covered by those standards.
  2. Suppliers electing to furnish solid core insulators may substitute a routine thermal cycle test in place of the flashover test. If a thermal cycle test is used, the test conditions shall be as follows:
    - Temperature difference - 176° F
    - Duration if immersion - 20 minutes
    - Number of Cycles – 2
    - At the end of the 2nd cycle, the insulators shall be checked for electrical soundness.
  3. Tensile strength, for all insulators supplied to Owner shall be tested in accordance with the latest version of ANSI C29.9 for post type insulators.
  4. Bending moment tests shall be made on the units of the insulators at a value equal to 50 percent of the "inch-pound" bending moment rating of the units. The bending moment shall be applied in a manner to stress equally the entire length of the unit. The test shall be repeated for each of the four quadrants.
  5. Cantilever tests, for all insulators supplied to Owner shall be tested in accordance with the latest version of ANSI C29.9 for post type insulators.

6. On each lot of insulators manufactured for Owner, the Supplier shall perform quality conformance tests including visual, porosity, and galvanizing as specified in the latest version of ANSI Standard C29.9 for post-type insulators.

### **3.9. Spare Parts**

- A. Supplier shall recommend spare parts to be included with equipment as an adder.
- A. Special Tools The suppliers shall furnish a complete set of any special tools, lifting devices, templates and jigs which are specifically necessary for installation and/or maintenance of the equipment. Any accessories normally furnished with this class of equipment or which are necessary for satisfactory operation thereof, and not specified herein, shall also be furnished by the Supplier. All tools furnished shall be new and plainly marked for identification.

### **3.10. Varmint Control**

- B. Supplier shall include specialized varmint control equipment as an adder.

### **3.11. Cleaning and Galvanizing**

- A. All ferrous parts which are exposed to the weather and which are not painted shall be galvanized. The required surfaces shall be thoroughly cleaned and made free of all scales, corrosion, and foreign substances before galvanizing. All the galvanized surfaces shall be free of excess galvanizing or rough exterior. The galvanizing shall be done in accordance with ASTM A 123.

### **3.12. Shipping Requirements**

- A. All items shall be properly blocked, braced and secured in a manner that prevents damage to the items or their finish during transit.
- B. A complete itemized Bill of Lading, which clearly identifies and inventories each assembly, subassembly, carton, package, envelope, etc., shall be furnished and enclosed with each item or items at the time of shipment.
- C. Each item, box or bundle shall be plainly and individually identifiable for content according to item number, Owner's Contract number, Supplier's identifying number, and complete Owner address as per instruction at time of shipment.
- D. Material Safety Data Sheets (MSDS) must be provided for all Hazardous Materials supplied with the equipment. The equipment must not contain detectable amounts of any Carcinogen or Reproductive Toxins (such as asbestos, lead, and polychlorinated biphenyl's). Any hazardous materials supplied must be labeled in accordance with Title 29 Code of Federal Regulations (CFR), Section 1910.1200- Hazard Communication.
- E. All loose material, spare parts, cans, etc. provided shall have English labels identifying contents, hazards, and disposal instructions in compliance with US Federal standards.



## TECHNICAL REQUIREMENTS

### 4.1. General

A. The arrester shall be suitable for upright and cantilever mounting on a flat surface.

### 4.2. Surge Arrester Housing

A. Polymer arresters shall be provided. Color of the polymer shall be as specified in the data sheet.

B. The arrester housing shall be designed to be non-fragmenting in the event of a housing rupture.

### 4.3. Nameplate

A. The arrester nameplate shall be corrosion resistant. The information on the nameplate shall be applied in a weatherproof, ultraviolet resistant, scratch resistant manner that is permanent for a minimum of 25 years. Silk screened and/or laser etched paint are not acceptable.

B. Arrester nameplate information shall include, at a minimum:

- Arrester Classification
- Manufacturers Name
- Arrester Model and Serial Numbers
- Arrester Duty Cycle
- Arrester MCOV Rating
- Date of Manufacture

C. Switch nameplate information shall include, at a minimum:

- Manufacturer
- Model #
- Voltage Rating
- Current Rating

### 4.4. Hardware

A. The arrester hardware shall be constructed from corrosion-resistant metal or shall be zinc-coated in accordance with all of the latest applicable ASTM standards.

### 4.5. Terminals

A. Arrester shall be furnished with a standard NEMA four (4) hole pad for line termination.

B. Surface of the 4-hole pad shall be compatible with either copper or aluminum connectors.

C. The arrester ground terminal shall be a solderless clamp-type terminal capable of securely clamping #2/0 AWG to #4/0 AWG conductor. Ground terminal surfaces shall be compatible with either copper or aluminum connectors.

- D. Switch terminal pads shall be of high conductivity bronze, copper or aluminum alloy and shall be plated with hot flowed electro-silver or electro-tin to a thickness of not less than 0.0127 mm (0.0005 inch) with hole sizes and spacing conforming to NEMA-CCI and shall be furnished with 18-8 stainless steel bolts, nuts, flat washers and belleville washers.
- E. Switch terminal pads shall be 4" NEMA four hole unless otherwise specified.

**APPENDIX A – FEEDER SURGE ARRESTER DATA SHEET**

	<b>UNIT</b>	<b>REQUIRED VALUE</b>
Number of units	Qty	Three (3)
Arrester Classification		Station Class
Type		Metal Oxide Varister
Bushing Material		Polymer
Nominal System Voltage	kV	12.47
Maximum System Voltage	kV	13.1
Maximum Continuous Operating Voltage (MCOV)	kV	7.65
Duty Cycle	kV	9
Max Discharge Voltage at 40kA	kV	28
Minimum Leakage Distance	in	30.1
HV Connection		NEMA 4-Hole Pad
Mounting Configuration		Tripod
Bolt Circle	Inches-dia	10
Mounting		Upright and Cantilever
Seismic Zone		Ss = 1.692, S1 = 0.643
Color		ANSI-70, Gray
Approved Manufacturer		Hubbell
Approved Part Number		EVP000800-3001

**APPENDIX B – 1200A HOOKSTICK SWITCH DATA SHEET**

	<b>UNIT</b>	<b>REQUIRED VALUE</b>
Number of units	Qty	Three (3)
Continuous Current Rating	A	1200
Nominal System Voltage	kV	12.47
Maximum System Voltage	kV	13.1
Short-time Current Withstand (3s)	kA	38
Momentary Rating	kA	61
Peak Withstand	kA	99
Minimum BIL	kV	110
Terminal Connection		NEMA 4-Hole Pad, 4in
Mounting		Vertical
Seismic Zone		Ss = 1.692, S1 = 0.643
Color		ANSI-70, Gray

**APPENDIX C – 1200A TANDEM TRANSFER SWITCH DATASHEET**

	<b>UNIT</b>	<b>REQUIRED VALUE</b>
Number of units	Qty	Three (3)
Continuous Current Rating	A	1200
Nominal System Voltage	kV	12.47
Maximum System Voltage	kV	13.1
Short-time Current Withstand (3s)	kA	38
Momentary Rating	kA	61
Peak Withstand	kA	99
Minimum BIL	kV	110
Terminal Connection		NEMA 4-Hole Pad, 4in
Mounting		Vertical
Seismic Zone		Ss = 1.692, S1 = 0.643
Color		ANSI-70, Gray

**APPENDIX D – 3000A HOOKSTICK SWITCH DATASHEET**

	<b>UNIT</b>	<b>REQUIRED VALUE</b>
Number of units	Qty	Six (6)
Continuous Current Rating	A	3000
Nominal System Voltage	kV	12.47
Maximum System Voltage	kV	13.1
Short-time Current Withstand (3s)	kA	38
Momentary Rating	kA	61
Peak Withstand	kA	99
Minimum BIL	kV	110
Terminal Connection		NEMA 4-Hole Pad, 4in
Mounting		Vertical
Seismic Zone		Ss = 1.692, S1 = 0.643
Color		ANSI-70, Gray