

## **RESOLUTION NO. 2011-164**

Adopted by the Sacramento City Council

March 22, 2011

### **AWARDING A CONTRACT FOR THE PURCHASE OF CONDENSING HOT WATER BOILER EQUIPMENT**

- A. On May 22, 2009, City Council adopted Resolution No. 2009-319 authorizing the acceptance and execution of a 2009 Federal Energy Efficiency and Conservation Block Grant with the US Department of Energy in the amount of \$4.7 million. A portion of that funding was programmed for energy efficiency improvements in City facilities. This contract award makes use of that funding to purchase condensing hot water boiler equipment to increase energy efficiency and to meet air quality requirements in the Central Library and Samuel C. Pannell Meadowview Community Center.
- B. On January 12, 2011 Procurement Services, in accordance with City Code Section 3.56, issued Invitation for Bid No. B11131061006 for condensing hot water boiler equipment. Two bids were received. The lowest responsive and responsible bidder was determined to be Clyde Equipment Company, Inc..

### **BASED ON THE FACTS SET FORTH IN THE BACKGROUND, THE CITY COUNCIL RESOLVES AS FOLLOWS:**

- Section 1. Clyde Equipment Company, Inc. is awarded a contract for the purchase of condensing hot water boiler equipment for the Central Library and Samuel C. Pannell Meadowview Community Center in a total amount not to exceed \$102,925.
- Section 2. The Interim City Manager or the Interim City Manager's designee is authorized to execute the contract specified above.

#### **Table of Contents:**

Exhibit A: Contract with Clyde Equipment Company, Inc.

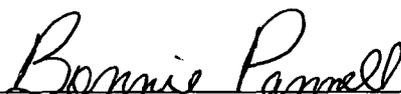
Adopted by the City of Sacramento City Council on March 22, 2011 by the following vote:

Ayes: Councilmembers Ashby, Cohn, D Fong, R Fong, McCarty, Pannell, Schenirer, Sheedy.

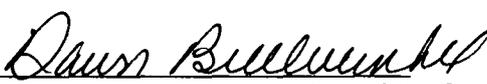
Noes: None.

Abstain: None.

Absent: Mayor Johnson.

  
Bonnie Pannell, Vice-Mayor

Attest:

  
Dawn Bullwinkel, Assistant City Clerk



# City of Sacramento Contract Cover and Routing Form

Requires Council Approval:  No  YES Meeting: March 22

### General Information

Type: Commodity

CHANGE: None CH #:

\$ Not to Exceed: \$ 102,924.19

Original Contract Number:

Original Contract Amount:

Contractor: Clyde Equipment Co

Project Name: Condensing Hot Water Heating Boilers

Project Number:

Bid Transaction #: B11131061006

E/SBE-DBE-M/WBE: Yes

### Department Information

Department: General Services

Division: Procurement Division

Project Mgr: Sonny Eboigbe

Supervisor: Craig Lymus

Contract Services:

Division Mgr: CRAIG LYMUS

Phone Number: X7432

Org Number: 13001~~2~~<sup>5</sup>11

Comment:

### Review and Signature Routing

Department	Signature or Initial	Date
Project Mgr:	<i>[Signature]</i>	3/3/11
Accounting:		
Contract Services:		
Supervisor:	<i>[Signature]</i>	3/7/11
Division Manager:	<i>[Signature]</i>	3/7/11

City Attorney	Signature or Initial	Date
City Attorney:	<i>[Signature]</i>	3/10/11

Send Interoffice Mail  Notify for Pick Up

Authorization	Signature or Initial	Date
Schwartz, Reina Department Director:	<i>[Signature]</i>	3/10/11
City Mgr: yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		

**For City Clerk Processing**

**Finalized:**  
Initial: \_\_\_\_\_ Date: \_\_\_\_\_

**Imaged:**  
Initial: \_\_\_\_\_ Date: \_\_\_\_\_

**Resolution No:** (If Applicable)

**Contract No:**  
\_\_\_\_\_

\_\_\_\_\_

This coversheet is to remain with the original signed Contract.

### Responsibility

**General Information:** May be completed by Project Manager or Contract Services.

**Department Information:** May be completed by Project Manager or Contract Services.

**Review and Signature Routing:**

**Department**

Project Manager: Verification of Technical Specs.

Accounting: Verification of Funding Sources.

Contract Services: BOT Number, Insurance, Bonds, Solicitation (BID, RFP, RFQ, RFI, Quote, Sole Source, or Emergency), Contractor Signatures, E/SBE, DBE or M/WBE Project Participation.

**City Attorney**

Approval of Contract Form and Bonds (if applicable)

Verification that Insurance Documents are Included (if required for contract approval)

**Authorization**

Department Director: Review All Contracts; Signing Authority <\$100,000

City Manager: Signing Authority delegated for < \$100,000

Signing Authority delegated to Assistant City Manager for = or > \$100,000

**AFTER** Council Authorization

### Types of Contracts

Type	City Code	Type	City Code
Commodity	<b>3.56</b>	Reimbursement/Credit	
Development	<b>18.16</b>	Settlement	
Grant		Supplies	<b>3.56</b>
Hold Harmless			
Individual Participation			
Master Services			
Memorandum			
Non-Professional Services	<b>3.56</b>		
Owner Participation		<b>Received City Clerk (2<sup>nd</sup> Receipt)</b>	
Professional Services	<b>3.64</b>		
Public Project	<b>3.60</b>		
Real Property Lease City Owned	<b>3.68</b>		
Real Property Sale City Owned	<b>3.88</b>		
Real Property Non-City Owned (NCO)			



DEPARTMENT OF GENERAL SERVICES  
PROCUREMENT SERVICES DIVISION

CITY OF SACRAMENTO  
CALIFORNIA

5730 24th Street  
Building 1  
SACRAMENTO, CA 95822

PHONE: 916-808-6240  
FAX: 916-808-5747

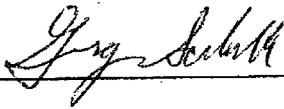
February 9, 2011

**ADDENDUM NO. 2 TO BID NO. B11131061006**

**FOR CONDENSING HOT WATER HEATING BOILER**

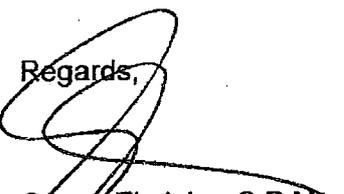
1. The Bid due date **HAS BEEN CHANGED TO February 16, 2011**
2. Bidders may submit pricing for Condensing Hot Water Heating Boiler. Modification to the Technical specification has been made and is part of this addendum. Bidders shall disregard the original Technical specification Pricing Schedule and respond to the bid with the new specifications. Bid addendum number 2 attached.
3. **Use new Drawings attached 2 sheets. (Total addendum contains 4 pages)**
4. If a bid package is not being submitted, it is not necessary to return this addendum or acknowledge receipt of such.
5. Vendors submitting a bid package must acknowledge receipt of this addendum prior to the hour and date specified in the bid request by one of the following methods:
  - (a) By signing and returning one (1) copy of this addendum with the bid package if not previously submitted; or
  - (b) If the bid package has been previously submitted, the addendum may be submitted by separate letter, which must include on the outside of the mailing envelope the bid and addendum number and the bid due date. This information must be clearly marked in CAPITAL LETTERS on the outside of the envelope. Failure of your acknowledgment to be received at the City Clerk's Office, Historic Building, 915 I Street, First Floor, Sacramento, CA 95814 prior to the hour and date specified, **may result in rejection of your bid.**
  - (c) If, by virtue of this addendum you decide to change a bid already submitted, such change may be made by letter, as specified in (b) above.

Vendor's Name: CLYDE EQUIPMENT CO., INC.

Signature: 

Typed or Printed Name & Title: GREG SCHMALE - SR. SALES ENGINEER

Date: 2/15/11

Regards,  
  
Sony Eboigbe, C.P.M  
Procurement Analyst



DEPARTMENT OF GENERAL SERVICES  
PROCUREMENT SERVICES DIVISION

CITY OF SACRAMENTO  
CALIFORNIA

5730 24th Street  
Building 1  
SACRAMENTO, CA 95822

PHONE: 916-808-6240  
FAX: 916-808-5747

January 28, 2011

**ADDENDUM NO. 1 TO BID NO. B11131061006**

**FOR CONDENSING HOT WATER HEATING BOILER**

1. The Bid due date **HAS BEEN CHANGED TO February 16, 2011**
2. Bidders may submit pricing for Condensing Hot Water Heating Boiler. Modification to the Technical specification has been made and is part of this addendum. Bidders shall disregard the original Technical specification Pricing Schedule and respond to the bid with the new specifications. Bid addendum number 1 attached. **FURTHER ADDENDA WILL BE POSTED BEFORE BID DUE DATE.**
3. Use new Pricing Schedule sheets. Discard previous pricing schedules. (Total addendum contains 6 pages)
4. If a bid package is not being submitted, it is not necessary to return this addendum or acknowledge receipt of such.
5. Vendors submitting a bid package must acknowledge receipt of this addendum prior to the hour and date specified in the bid request by one of the following methods:
  - (a) By signing and returning one (1) copy of this addendum with the bid package if not previously submitted; or
  - (b) If the bid package has been previously submitted, the addendum may be submitted by separate letter, which must include on the outside of the mailing envelope the bid and addendum number and the bid due date. This information must be clearly marked in CAPITAL LETTERS on the outside of the envelope. Failure of your acknowledgment to be received at the City Clerk's Office, Historic Building, 915 I Street, First Floor, Sacramento, CA 95814 prior to the hour and date specified, **may result in rejection of your bid.**
  - (c) If, by virtue of this addendum you decide to change a bid already submitted, such change may be made by letter, as specified in (b) above.

*CLYDE EQUIPMENT Co., Inc. - GREG SCHAMBOE - SR. SALES ENGINEER*

Addendum No. 1 to Bid No. B11131061005

*Greg Schamboe 2/15/11*

Page 1 of 2 Pages



# CITY OF SACRAMENTO

DEPARTMENT OF GENERAL SERVICES

*Clyde Equipment*

**Bid Number: B11131061006**

## INVITATION FOR BID And Contract Specifications For Supplies

**FOR: CONDENSING HOT WATER HEATING BOILER**  
For Sacramento Library & Sacramento Central Library  
*Procurement of these items is funded by the Recovery Act.*

PROPERLY SIGNED BY  
 Properly Signed  
 Improperly Signed  
 Not Included  
 Not Required  
Type of Deposit  
 Bid Bond  
 Cashier/Certified Check  
 Other  
Initial: VE  
Bid Bond Security

**Bids Must Be Received Prior To 2:00 P.M. on February 2, 2011**

**Bids Must Be Submitted To:** City Clerk's Office  
P.O. Box 122391  
Sacramento, CA 95812-2391

Pre-Bid Conference: *Historic City Hall*  
Mandatory: [ ] Yes *915 I Street, Room 201*  
[ X ] No *Sacramento CA 95814*  
*January 27, 2011 @ 9:30AM*

<b>NAME AND /</b> (Bidder)	<b>CLYDE EQUIPMENT COMPANY, INC.</b> <i>Manufacturers Representatives</i>	<b>ID:</b>
<b>Name of Bidder:</b>	Main Office: (925) 299-9180 / Fax 299-9186	
<b>Address:</b>	3470 Mt. Diablo Blvd., Suite A-120 Lafayette, CA 94549	
<b>City, State, Zip Co</b>	Rocklin Office: Greg Schnable (916) 624-1897 / Fax 624-7987	
<b>Phone Number:</b>		
<b>Email Address:</b>	<u>CLYDE@SAC@SSCTV.NET</u>	



# CITY OF SACRAMENTO

DEPARTMENT OF GENERAL SERVICES

*Clyde Equipment*

**Bid Number: B11131061006**

## INVITATION FOR BID And Contract Specifications For Supplies

**FOR: CONDENSING HOT WATER HEATING BOILER**  
For Sacramento Library & Sacramento Central Library  
*Procurement of these items is funded by the Recovery Act.*

**BID BOND SECURITY**  
 Properly Signed  
 Improperly Signed  
 Not Included  
 Not Required  
Type of Deposit  
 Bid Bond  
 Cashier/Certified Check  
 Other  
Initial: VE  
**Bid Bond Security**

**Bids Must Be Received Prior To 2:00 P.M. on February 2, 2011**

**Bids Must Be Submitted To:** City Clerk's Office  
P.O. Box 122391  
Sacramento, CA 95812-2391

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*January 27, 2011 @ 9:30AM*

<b>NAME AND /</b>	<b>CLYDE EQUIPMENT COMPANY, INC.</b>	<b>ID:</b>
<b>(Bidder)</b>	<i>Manufacturers Representatives</i>	
<b>Name of Bidder:</b>	Main Office: (925) 299-9180 / Fax 299-9186	
<b>Address:</b>	3470 Mt. Diablo Blvd., Suite A-120	
	Lafayette, CA 94549	
	Rocklin Office:	
<b>City, State, Zip Co</b>	Greg Schnable (916) 624-1897 / Fax 624-7987	
<b>Phone Number:</b>		
<b>Email Address:</b>	<i>CLYDESAC@SSCTV.NET</i>	

CITY OF SACRAMENTO

Bid No.B1113101006  
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# SECTION I REQUIREMENTS

SECTION I – REQUIREMENTS

A. "NO BID" RESPONSE FORM

**NOTE: COMPLETE AND RETURN THIS FORM  
ONLY IF YOU DO NOT WANT TO SUBMIT A BID**

If you do not want to submit a bid for this requirement, we are interested in knowing why. Please remove this form, complete the requested information, and **FAX your response to the Procurement Services at (916) 808-5747**. If you have questions, please call the Procurement Office at (916) 808-6240. Thank you for your cooperation.

"NO BID" QUESTIONNAIRE  
(Please complete all items that apply)

- We do not sell the products/services called for in this invitation for bid, but **we want to stay on the City's Bid List**. Please send necessary information so that the products/services we do provide can be updated on the City's Bid List.
- We are not interested in doing business with the City of Sacramento, because \_\_\_\_\_  
\_\_\_\_\_
- Other reasons/comments: \_\_\_\_\_  
\_\_\_\_\_
- Please send application forms for certification as an emerging and/or small business enterprise (E/SBE): **(Note: Application forms and information about becoming certified as an emerging and/or small business can be obtained via the Internet at: <http://www.cityofsacramento.org/esbd>).**

_____	Date: _____
(Business Name)	
_____	Phone: _____
(Street Address/P.O. Box)	
_____	Contact: _____
(City, State, Zip)	
_____	
(E-mail address)	

**SECTION I – REQUIREMENTS**

**B. BID INSTRUCTIONS AND REQUIREMENTS**

No Bid Is In Legal Form Unless the Following Instructions Are Fully Complied With

1. **Additional Copies.** VENDORS ARE REQUIRED TO SUBMIT AN ORIGINAL BID AND 0 ADDITIONAL COP OF THIS BID, INCLUDING ALL REQUIRED ATTACHMENTS SUCH AS BROCHURES AND CATALOGS, TO THE CITY CLERK ON THE DATE AND AT THE TIME AND LOCATION SPECIFIED ON THE COVER SHEET. FAILURE TO DO SO MAY CAUSE YOUR BID TO BE REJECTED.

2. **Bid Forms.** Bid must be submitted on these printed forms and sealed in an appropriate envelope or package.

a) To obtain an electronic version of this bid go to Procurement's website at [www.cityofsacramento.org/generalservices/procurement/bids](http://www.cityofsacramento.org/generalservices/procurement/bids).

b) Bidders are invited to be present at the opening of bids. Bids will be opened, in public, in the City Clerk's Hearing Room, 915 "I" Street, Second Floor, Sacramento, CA, at or after 2:00 P.M. on, February 2., 2011 . After opening, Bids may be inspected in the City Clerk's Office.

**(Note: Bids must be submitted prior to 2:00 P.M. on the above date)**

c) All bids shall be clearly and distinctly written without erasure or modification, and properly signed by an authorized party, who shall indicate the capacity in which the signature is executed.

3. **Alternate Bids.** Alternate bids are invalid unless invited and covered by the specifications. **Please note all submissions are subject to rejection when unsolicited alternate bids are submitted.**

4. **Bid Security.** Bid Security is:      Required                    Not Required

If required, bid security approved by the City must accompany the bid, in the amount of \_\_\_ % of the total amount of the bid. Bid security can be in the form of a cashier's check, certified check, or a bid bond from a surety company authorized to do business in the State of California. Bid securities will be returned to all except the three lowest Bidders within ten days after the opening of bids. The bid security of the two unsuccessful Contractors will be returned after the successful Contractor has executed the contract. Bid security of the successful Contractor will be returned when the contract is signed and all other contract award requirements have been met.

5. **Interest in More Than One Bid.** No bidder shall be interested in more than one bid (submit more than one bid for this solicitation) as provided by City Code Section 3.56.130(D).

6. **Rejection of Bids.** The right to reject any and all bids is reserved by the City, in its absolute discretion.

7. **Right to Waive.** The City reserves the right to waive any informalities or minor irregularities, as determined in its sole discretion, in connection with bids received.

7A. **City's Options.** City reserves the following options:

1. The right to award in whole or in part.
2. The right to reject all partial bids.
3. The right to reject any or all bids or make no award.
4. The right to issue subsequent Invitation For Bids (IFB).
5. The right to approve or disapprove the use of particular subcontractors and/or suppliers.
6. The right to waive any informality or irregularity in the bidding process and any bids.
7. The right to accept a bidder's signed offer and issue a purchase order directly to the bidder based on the IFB.

8. **City Code.** All provisions of Chapter 3.56 of the City Code are applicable to any bid submitted or contract awarded.
9. **Equipment.** If equipment is bid, it shall be the newest and latest model in current production. Used, re-manufactured, shopworn, demonstrator, prototype or discontinued models are not acceptable unless otherwise stipulated by the City.
10. **Faithful Performance Bond.** A faithful performance bond is:  Not Required  Required
- If required, the successful bidder must submit a performance bond in a form approved by the City Attorney, in the amount of \_\_\_\_\_.
11. **Payment Discounts.** Payment discounts offered for payment in less than twenty (20) days will not be considered as a basis of award. Payment discounts offered for payment in twenty (20) or more days will be subtracted from the total bid price for the purposes of bid evaluation. Any payment discount offered by the successful bidder will be accepted by the City of Sacramento, whether or not it was considered as a basis of award.
12. **Mandatory Pre-Bid Conference.** If a mandatory Pre-Bid Conference is indicated on the Invitation for Bid, all bidders are required to attend the conference. Failure to attend this conference will result in rejection of your bid. If a mandatory Pre-Bid Conference is indicated on the Invitation for Bid, bid packages will be made available only through the time and date of the conference. Subsequent addenda, if applicable, will be furnished only to those bidders who attended the Mandatory Pre-Bid Conference.
13. **Bid Inquiries.** Questions regarding this bid should be referred to:

Contractual Questions

Department Name DGS  
Attention: Sonny Eboigbe  
Email: seboigbe@cityofsacramento.org  
(916) 808-6240

Technical Questions

Department Name: DGS-Facilities  
Attention: Abdulilah Yahya  
Email: AYahya@cityofsacramento.org  
Phone@916) 808-7118

These inquiries must be submitted at least 10 days prior to the bid opening date. Any interpretations by the City will be made in the form of a written amendment. The receipt of such an amendment must be acknowledged in accordance with the directions on the amendment. Oral explanations or instructions given before the award of the contract will not be binding.

14. **Bid Evaluation.** In determining the amount bid by each bidder, the City shall disregard mathematical errors in addition, subtraction, multiplication and division that appear obvious on the face of the Bid. When such a mathematical error appears on the face of the Bid, the City shall have the right to correct such error and to compute the total amount bid by the bidder on the basis of the corrected figure or figures.

When an item price is required to be set forth in the Bid, and the total for the item set forth separately does not agree with a figure which is derived by multiplying the item price times the City's estimate of the quantity to be provided or performed for said item, the item price shall prevail over the sum set forth as the total for the item unless, in the sole discretion of the City, such a procedure would be inconsistent with the intent of the bid process. The total paid for each such item of work shall be based upon the item price and not the total price.

Should the Bid contain only a total price for the item and the item price is omitted, the City shall determine the item price by dividing the total price for the item by City's estimate of the estimated quantities to be provided or performed.

If the Bid contains neither the item price nor the total price for the item, then it shall be deemed incomplete and the Bid shall be disregarded.

If prospective bidders are bidding an item "or equal" the bidders shall list the manufacturer's name and product number of the item offered in the space provided. If such information is not provided, it will be assumed that the bidder is offering the exact item specified. The City's decision as to whether an item is an equal to the item specified shall be final.

- 15. Determination of Lowest Responsible Bidder.** Sacramento City Code '3.56.020 provides that the lowest responsible bidder shall be determined as follows:
- a. In determining whether a bidder is responsible, consideration shall be given to: (i) the quality and performance of the supplies to be provided by the bidder; (ii) the ability, capacity and skill of the bidder to perform the contract or effectuate the transaction; (iii) the ability of the bidder to perform the contract or effectuate the transaction within the time specified, without delay; (iv) the character, integrity, reputation, judgment, experience and efficiency of the bidder; (v) the quality of the bidder's performance on previous purchases by, or contracts with, the City; (vi) the ability of the bidder to provide future maintenance, repair parts and services for the supplies provided.
  - b. Based on the information provided in the bids, the City Council or the City Manager, as the case may be, shall identify those bids that are subject at the time of bid opening to the City's local sales or use tax under the provisions of Part 1.5 of Division 2 of the California Revenue and Taxation Code and Chapter 3.24 of the City Code. The lowest responsible bidder shall be determined after the amount of local sales or use tax that would be received by the City is deducted from such bids. This deduction shall be in addition to the application of any bid price preferences authorized by subsection c, below.
  - c. The City Council may by resolution, from time to time, adopt programs or procedures for providing bid price preferences, including but not limited to, preferences to promote the participation and utilization of small business enterprises, energy conservation and sustainability in the City's contracting for supplies and nonprofessional services. The lowest responsible bidder shall be the responsible bidder whose bid price is the lowest after all bid prices are calculated to include any such preferences. The calculation of such preferences shall be in addition to any deduction of sales or use tax required by subsection b, above.
- 16. Pre-Award Conference.** The apparent lowest responsible bidder may be required to attend a pre-award conference at a mutually acceptable time at which requirements of the Contract will be reviewed. At that time, samples of forms, reports etc., will be submitted by the Contractor for final approval.
- 17. Award by Item or Group.** The City reserves the right to increase or decrease quantities listed, make separate awards for any item, line-item or category/group of items to the lowest responsible bidders for such items or category/groups of items.
- 18. Multiple Awards.** The City reserves the right to make multiple awards in order to provide alternate sources to insure continuity of supply if meeting the City's requirements within an acceptable time period exceeds the capacity or capability of the primary contractor(s).
- 19. Contract Award.** Within ninety (90) days after the bid opening, a contract will be awarded by the City to the lowest responsible bidder, subject to the right of the City to reject all bids or waive informalities or minor irregularities, as it may deem proper. The time for awarding a contract may be extended in the sole discretion of the City, if required to evaluate bids or for such other purposes as the City may determine, unless the Bidder objects to such extension in writing with his/her bid. The City may accept this bid offer by issuance of a Notice of Award Letter, Contract and/or a Purchase order covering award of said bid to Bidder at any time on or before the 90<sup>th</sup> day following the day of this official bid is opened by the City. This offer shall be irrevocable for 90 days after bid opening or 90 days after City Council awards the bid, whichever comes last, however this period may be extended by mutual agreement of both parties.
- 20. Emergency/Declared Disaster Requirements.** In the event of an emergency or if a City facility is declared a disaster area by the county, state or federal government, this contract may be subjected to unusual usage. The consultant/vendor/supplier shall service the City during such an emergency or declared disaster under the same terms and conditions that apply during non-emergency/disaster conditions. The pricing quoted by the consultant/vendor/supplier shall apply to serving the City's needs regardless of the circumstances. If the consultant/vendor/supplier is unable to supply the goods/services under the terms of the contract because of a disruption in its chain of supply or service, then the consultant/vendor/supplier shall provide proof of such disruption which may include, but not be limited to a copy of a letter from the source of supply or service stating reason for the disruption. Additional profit margin as a result of supplying goods/services during an emergency or a declared disaster shall not be permitted.

- 21. Acceptable bid format.** All bids must show the full name of the firm bidding and must be on forms furnished by the City of Sacramento. All responses must be written in ink, printed by typewriter or computer generated. Responses made in pencil will not be considered.
- 22. Submission of Bids.** The City is not responsible for misaddressed bids. Please assure that you utilize the address appropriate for the method of delivery. Bid submissions made via commercial express courier (FedEx, United Parcel Svs.) must be addressed as follows:

**City of Sacramento  
City Clerk's Office  
915 I St., Ste. 122391  
Sacramento, CA. 95814-2604**

**Bid submissions made via personal delivery shall be delivered to:**

**City of Sacramento  
City Clerk's Office  
Historic City Hall  
915 I St., Ste. 116  
Sacramento, CA. 95814**

**23. Bid Protest.** Bid protests must be filled and maintained in accordance with the provisions of Sections 3.60.460 through 3.60.560 of the Sacramento City Code. Bid protests that do not comply with Sections 3.60.460 through 3.60.560 of the Sacramento City Code shall be invalid and shall not be considered. A bid protest fee of \$750.00 is required at the time of filing to be considered valid in accordance with City of Sacramento Resolution No. 2003-231 dated April 29, 2003. As used herein, the term "bid protest" includes any bid protest that (1) claims that one or more bidders on this contract should be disqualified or rejected for any reason, or (2) contests a City staff recommendation to award this contract to a particular bidder, or (3) contests a City staff recommendation to disqualify or reject one or more bidders on this contract. Sections 3.60.460 - 3.60.560 of the Sacramento City Code are available at: <http://www.qcode.us/codes/sacramento/>.

**24. City of Sacramento Boycott of Arizona-Headquartered Businesses.** On June 15, 2010, the Sacramento City Council adopted Resolution No. 2010-346 opposing two Arizona laws (SB 1070 and HB 2162) that will allow Arizona police to arrest individuals suspected of being unlawfully present in the United States and to charge immigrants with a state crime for not carrying immigration documents. Sacramento City Council Resolution No. 2010-346 also called for a boycott of the State of Arizona and businesses headquartered in Arizona until Arizona repeals or a court nullifies SB 1070 and HB 1262. Resolution No. 2010-346 provides, in pertinent part, that "where practicable and where there is no significant additional cost to the City, the City of Sacramento shall not enter into any new, amended, extended or supplemental contracts to purchase or procure goods or services from any business or entity that is headquartered in Arizona ..."

**SUBJECT TO PARAGRAPH 7 ABOVE, THE CITY CANNOT ACCEPT A  
BID FAILING TO COMPLY WITH ANY OF THE ABOVE REQUIREMENTS.**

SECTION I - REQUIREMENTS

C. BID SIGNATURE PAGE

BID NO. B11131061006

SERVICES/SUPPLIES: CONDENSING HOT WATER HEATING BOILERS

To the City of Sacramento:

The undersigned bidder (hereafter referred to as the Abidder@ or the AContractor@) submits the attached bid, and certifies as follows: that the only persons or parties interested in this bid as principals are those named herein as bidder; that this bid is made without collusion with any other person, firm, or corporation; that in submitting this bid the bidder has examined all of the Contract Documents identified below; that the bidder proposes and agrees that if this bid is accepted, the bidder will execute and fully perform the contract for which bids are called; that the bidder shall perform all the work and/or furnish all the materials specified in the Contract Documents, in the manner and time therein prescribed, and according to the requirements as therein set forth; and that the bidder shall take in full payment therefor, the prices set forth in the attached Pricing Schedule.

CONTRACT DOCUMENTS

Performance of and payment for the contract for which bids are called shall be subject to all terms and conditions of the Invitation for Bid, the Bid Instructions and Requirements, the Bid, the Pricing Schedule(s), the Items Requiring Bidder Response, the Required Submittals, the General Conditions, and any Addenda, Amendments, Special Provisions, Specifications, Plans or other requirements applicable to performance of the work and/or furnishing the materials specified herein. Such documents, referred to herein as the Contract Documents, are fully incorporated herein by this reference and are collectively referred to as the Contract. By submitting this Bid, the Contractor agrees to fully perform each and every provision of the Contract, provided that City awards the Contract to the Contractor, and provided further that City shall have no obligation hereunder unless and until such award is made. Contractor shall not make any changes to this form without City's written approval, and any changes made without such approval shall be void.

To Be Filled Out By Bidder

NAME Clyde Equipment Co., Inc. \_\_\_\_\_

3470 Mt. Diablo Blvd., #A120

ADDRESS Lafayette, CA 94549 \_\_\_\_\_

PHONE (925) 299-9180 / Fax 299-9186 \_\_\_\_\_

E-MAIL: CLYDE.SAL@S5CTV.MET

STATE TAX I.D. #: SR-CHD-21147936 FED. TAX I.D. #: 941516931

City of Sacramento Business Operation Tax Certificate #: 1007447  
(Contract award will not be processed without a valid and current Certificate Number.)

TYPE OF BUSINESS ENTITY (check one):  Individual/Sole Proprietor  Partnership  
 Corporation  Limited Liability Company  
 Other (please specify: \_\_\_\_\_)

BY: (signature of authorized person) Greg Schamble

PRINT NAME: GREG SCHAMBLE

TITLE: SR. SALES ENGINEER

Note: All information submitted in or in connection with a bid is submitted under penalty of perjury. The City shall have the right to terminate at any time any contract awarded pursuant to a bid that contains false information.

**FOR CITY USE ONLY**

The Bid was opened on FEB 16, 2011

Bid Bond Required:  No;  Yes - Amount: \$ \_\_\_\_\_

Received:  Cashiers or Certified Check drawn on a California bank;  Surety Bond

\_\_\_\_\_  
City Clerk

**CONTRACT AWARD**

Bid Items Included in the Contract: All Items, unless otherwise specified below:

Specify: CONDENSING HOT WATER HEATING BOILER

Contract Not-to-Exceed Amount: \$ 102,929.19

Award Date: MARCH 22, 2011

**CONTRACT APPROVAL**

Approved as to Form:

Approved:

Attest:

[Signature]

City Attorney

\_\_\_\_\_  
City Manager  
(Or Authorized Designee)

\_\_\_\_\_  
City Clerk

**D. EQUAL BENEFITS ORDINANCE (EBO) REQUIREMENTS**

**REQUIREMENTS OF THE NON-DISCRIMINATION IN EMPLOYEE BENEFITS CODE**

**INTRODUCTION**

The Sacramento Non-Discrimination In Employee Benefits Code (the "Ordinance"), codified as Sacramento City Code Chapter 3.54, prohibits City contractors from discriminating in the provision of employee benefits between employees with spouses and employees with domestic partners, and between the spouses and domestic partners of employees.

**APPLICATION**

The provisions of the Ordinance apply to any contract or agreement (as defined below), between a Contractor and the City of Sacramento, in an amount exceeding \$25,000.00. The Ordinance applies to that portion of a contractor's operations that occur: (i) within the City of Sacramento; (ii) on real property outside the City of Sacramento if the property is owned by the City or if the City has a right to occupy the property; or (iii) at any location where a significant amount of work related to a City contract is being performed.

The Ordinance does not apply: to subcontractors or subcontracts of any Contractor or contractors; to transactions entered into pursuant to cooperative purchasing agreements approved by the Sacramento City Council; to legal contracts of other governmental jurisdictions or public agencies without separate competitive bidding by the City; where the requirements of the ordinance will violate or are inconsistent with the terms or conditions of a grant, subvention or agreement with a public agency or the instructions of an authorized representative of any such agency with respect to any such grant, subvention or agreement; to permits for excavation or street construction; or to agreements for the use of City right-of-way where a contracting utility has the power of eminent domain.

**DEFINITIONS**

As set forth in the Ordinance, the following definitions apply:

"Contract" means an agreement for public works or improvements to be performed, or for goods or services to be purchased or grants to be provided, at the expense of the City or to be paid out of moneys deposited in the treasury or out of the trust money under the control or collected by the City. "Contract" also means a written agreement for the exclusive use ("exclusive use" means the right to use or occupy real property to the exclusion of others, other than the right reserved by the fee owner) or occupancy of real property for a term exceeding 29 days in any calendar year, whether by singular or cumulative instrument, (i) for the operation or use by others of real property owned or controlled by the City for the operation of a business, social, or other establishment or organization, including leases, concessions, franchises and easements, or (ii) for the City's use or occupancy of real property owned by others, including leases, concessions, franchises and easements.

"Contract" shall not include: a revocable at-will use or encroachment permit for the use of or encroachment on City property regardless of the ultimate duration of such permit; excavation, street construction or street use permits; agreements for the use of City right-of-way where a contracting utility has the power of eminent domain; or agreements governing the use of City property that constitute a public forum for activities that are primarily for the purpose of espousing or advocating causes or ideas and that are generally protected by the First Amendment to the United States Constitution or that are primarily recreational in nature.

"Contractor" means any person or persons, firm partnership or corporation, company, or combination thereof, that enters into a Contract with the City. "Contractor" does not include a public entity.

"Domestic Partner" means any person who has a currently registered domestic partnership with a governmental entity pursuant to state or local law authorizing the registration.

"Employee Benefits" means bereavement leave; disability, life, and other types of insurance; family medical leave; health benefits; membership or membership discounts; moving expenses; pension and retirement benefits; vacation; travel benefits; and any other benefit given to employees. "Employee benefits" shall not include benefits to the extent that the application of the requirements of this chapter to such benefits may be preempted by federal or state.

### **CONTRACTOR'S OBLIGATION TO PROVIDE THE CITY WITH DOCUMENTATION AND INFORMATION**

Contractor shall provide the City with documentation and information verifying its compliance with the requirements of the Ordinance within ten (10) days of receipt of a request from the City. Contractors shall keep accurate payroll records, showing, for each City Contract, the employee's name, address, Social Security number, work classification, straight time pay rate, overtime pay rate, overtime hours worked, status and exemptions, and benefits for each day and pay period that the employee works on the City Contract. Each request for payroll records shall be accompanied by an affidavit to be completed and returned by the Contractor, as stated, attesting that the information contained in the payroll records is true and correct, and that the Contractor has complied with the requirements of the Ordinance. A violation of the Ordinance or noncompliance with the requirements of the Ordinance shall constitute a breach of contract.

### **EMPLOYER COMPLIANCE CERTIFICATE AND NOTICE REQUIREMENTS**

(a) All contractors seeking a Contract subject to the Ordinance shall submit a completed Declaration of Compliance Form, signed by an authorized representative, with each proposal, bid or application. The Declaration of Compliance shall be made a part of the executed contract, and will be made available for public inspection and copying during regular business hours.

(b) The Contractor shall give each existing employee working directing on a City contract, and (at the time of hire), each new employee, a copy of the notification provided as Attachment "A."

(c) Contractor shall post, in a place visible to all employees, a copy of the notice provided as Attachment "B."

ATTACHMENT A



**YOUR RIGHTS UNDER THE CITY OF SACRAMENTO'S NON-DISCRIMINATION IN EMPLOYEE BENEFITS CODE**

On ..... (date), your employer (the "Employer") entered into a contract with the City of Sacramento (the "City") for ..... (contract details), and as a condition of that contract, agreed to abide by the requirements of the City's Non-Discrimination In Employee Benefits Code (Sacramento City Code Section 3.54).

The Ordinance does not require the Employer to provide employee benefits. The Ordinance does require that if certain employee benefits are provided by the Employer, that those benefits be provided without discrimination between employees with spouses and employees with domestic partners, and without discrimination between the spouse or domestic partner of employees.

The Ordinance covers any employee working on the specific contract referenced above, but only for the period of time while those employees are actually working on this specific contract.

The included employee benefits are:

- Bereavement leave
- Disability, life and other types of insurance
- Family medical leave
- Health benefits
- Membership or membership discounts
- Moving expenses
- Pension and retirement benefits
- Vacation
- Travel benefits
- Any other benefits given to employees

(Employee Benefits does not include benefits that may be preempted by federal or state law.)

If you feel you have been discriminated or retaliated against by your employer in the terms and conditions of your application for employment, or in your employment, or in the application of these employee benefits, because of your status as an applicant or as an employee protected by the Ordinance, or because you reported a violation of the Ordinance, and after having exhausted all remedies with your employer,

**You May . . .**

- Submit a written complaint to the City of Sacramento, Procurement Services Division, containing the details of the alleged violation. The address is:  
  
City of Sacramento  
Procurement Services Division  
5730 24<sup>th</sup> Street, Bldg. 1  
Sacramento, CA 95822
- Bring an action in the appropriate division of the Superior Court of the State of California against the Employer and obtain the following remedies:
  - Reinstatement, injunctive relief, compensatory damages and punitive damages- Reasonable attorney's fees and costs

**ATTACHMENT B**



**YOUR RIGHTS UNDER THE CITY OF SACRAMENTO'S  
NON-DISCRIMINATION IN EMPLOYEE BENEFITS BY CITY CONTRACTORS ORDINANCE**

If your employer provides employee benefits, they must be provided to those employees working on a City of Sacramento contract without discriminating between employees with spouses and employees with domestic partners.

The included employee benefits are:

- Bereavement leave
- Disability, life and other types of insurance
- Family medical leave
- Health benefits
- Membership or membership discounts
- Moving expenses
- Pension and retirement benefits
- Vacation
- Travel benefits
- Any other benefits given to employees

If you feel you have been discriminated against by your employer . . .

**You May . . .**

- Submit a written complaint to the City of Sacramento, Procurement Services Division, containing the details of the alleged violation. The address is:

City of Sacramento  
Procurement Services Division  
5730 24<sup>th</sup> Street, Bldg. 1  
Sacramento, CA 95822

- Bring an action in the appropriate division of the Superior Court of the State of California against the employer and obtain reinstatement, injunctive relief, compensatory damages, punitive damages and reasonable attorney's fees and costs.

**Discrimination and Retaliation Prohibited.**

If you feel you have been discriminated or retaliated against by your employer in the terms and conditions of your application for employment, or in your employment, because of your status as an applicant or as an employee protected by the Ordinance, or because you reported a violation of this Ordinance . . .

**You May Also . . .**

Submit a written complaint to the City of Sacramento, Procurement Services Division, at the same address, containing the details of the alleged violation.

**SECTION II**  
**CONTRACT DOCUMENTS**

## SECTION II – CONTRACT DOCUMENTS

A. GENERAL CONDITIONS**1. Independent Contractor.**

- A. It is understood and agreed that CONTRACTOR (including CONTRACTOR's employees) is an independent contractor and that no relationship of employer-employee exists between the parties hereto for any purpose whatsoever. Neither CONTRACTOR nor CONTRACTOR's assigned personnel shall be entitled to any benefits payable to employees of CITY. CITY is not required to make any deductions or withholdings from the compensation payable to CONTRACTOR under the provisions of this Agreement, and CONTRACTOR shall be issued a Form 1099 for its services hereunder. As an independent contractor, CONTRACTOR hereby agrees to indemnify and hold CITY harmless from any and all claims that may be made against CITY based upon any contention by any of CONTRACTOR's employees or by any third party, including but not limited to any state or federal agency, that an employer-employee relationship or a substitute therefor exists for any purpose whatsoever by reason of this Agreement or by reason of the nature and/or performance of any Services under this Agreement. (As used in this Exhibit D, the term "Services" shall include both Services and Additional Services as such terms are defined elsewhere in this Agreement.)
- B. It is further understood and agreed by the parties hereto that CONTRACTOR, in the performance of its obligations hereunder, is subject to the control and direction of CITY as to the designation of tasks to be performed and the results to be accomplished under this Agreement, but not as to the means, methods, or sequence used by CONTRACTOR for accomplishing such results. To the extent that CONTRACTOR obtains permission to, and does, use CITY facilities, space, equipment or support services in the performance of this Agreement, this use shall be at the CONTRACTOR's sole discretion based on the CONTRACTOR's determination that such use will promote CONTRACTOR's efficiency and effectiveness. Except as may be specifically provided elsewhere in this Agreement, the CITY does not require that CONTRACTOR use CITY facilities, equipment or support services or work in CITY locations in the performance of this Agreement.
- C. If, in the performance of this Agreement, any third persons are employed by CONTRACTOR, such persons shall be entirely and exclusively under the direction, supervision, and control of CONTRACTOR. Except as may be specifically provided elsewhere in this Agreement, all terms of employment, including hours, wages, working conditions, discipline, hiring, and discharging, or any other terms of employment or requirements of law, shall be determined by CONTRACTOR. It is further understood and agreed that CONTRACTOR shall issue W-2 or 1099 Forms for income and employment tax purposes, for all of CONTRACTOR's assigned personnel and subcontractors.
- D. The provisions of this Section 1 shall survive any expiration or termination of this Agreement. Nothing in this Agreement shall be construed to create an exclusive relationship between CITY and CONTRACTOR. CONTRACTOR may represent, perform services for, or be employed by such additional persons or companies as CONTRACTOR sees fit provided that CONTRACTOR does not violate the provisions of Section 5, below.

- 2. Licenses; Permits, Etc.** CONTRACTOR represents and warrants that CONTRACTOR has all licenses, permits, City Business Operations Tax Certificate, qualifications, and approvals of whatsoever nature that are legally required for CONTRACTOR to practice its profession or provide any services

under the Agreement. CONTRACTOR represents and warrants that CONTRACTOR shall, at its sole cost and expense, keep in effect or obtain at all times during the term of this Agreement any licenses, permits, and approvals that are legally required for CONTRACTOR to practice its profession or provide such Services. Without limiting the generality of the foregoing, if CONTRACTOR is an out-of-state corporation, CONTRACTOR warrants and represents that it possesses a valid certificate of qualification to transact business in the State of California issued by the California Secretary of State pursuant to Section 2105 of the California Corporations Code.

3. **Time.** CONTRACTOR shall devote such time and effort to the performance of Services pursuant to this Agreement as is necessary for the satisfactory and timely performance of CONTRACTOR's obligations under this Agreement. Neither party shall be considered in default of this Agreement, to the extent that party's performance is prevented or delayed by any cause, present or future, that is beyond the reasonable control of that party.
4. **CONTRACTOR Not Agent.** Except as CITY may specify in writing, CONTRACTOR and CONTRACTOR's personnel shall have no authority, express or implied, to act on behalf of CITY in any capacity whatsoever as an agent. CONTRACTOR and CONTRACTOR's personnel shall have no authority, express or implied, to bind CITY to any obligations whatsoever.
5. **Conflict of Interest.** CONTRACTOR covenants that neither it, nor any officer or principal of its firm, has or shall acquire any interest, directly or indirectly, that would conflict in any manner with the interests of CITY or that would in any way hinder CONTRACTOR's performance of Services under this Agreement. CONTRACTOR further covenants that in the performance of this Agreement, no person having any such interest shall be employed by it as an officer, employee, agent or subcontractor, without the written consent of CITY. CONTRACTOR agrees to avoid conflicts of interest or the appearance of any conflicts of interest with the interests of CITY at all times during the performance of this Agreement. If CONTRACTOR is or employs a former officer or employee of the CITY, CONTRACTOR and any such employee(s) shall comply with the provisions of Sacramento City Code Section 2.16.090 pertaining to appearances before the City Council or any CITY department, board, commission or committee.
6. **Confidentiality of CITY Information.** During performance of this Agreement, CONTRACTOR may gain access to and use CITY information regarding inventions, machinery, products, prices, apparatus, costs, discounts, future plans, business affairs, governmental affairs, processes, trade secrets, technical matters, systems, facilities, customer lists, product design, copyright, data, and other vital information (hereafter collectively referred to as "City Information") that are valuable, special and unique assets of the CITY. CONTRACTOR agrees to protect all City Information and treat it as strictly confidential, and further agrees that CONTRACTOR shall not at any time, either directly or indirectly, divulge, disclose or communicate in any manner any City Information to any third party without the prior written consent of CITY. In addition, CONTRACTOR shall comply with all CITY policies governing the use of the CITY network and technology systems, as set forth in applicable provisions of the City of Sacramento Administrative Policy Instructions # 30. A violation by CONTRACTOR of this Section 6 shall be a material violation of this Agreement and shall justify legal and/or equitable relief.
7. **CONTRACTOR Information.**
  - A. CITY shall have full ownership and control, including ownership of any copyrights, of all information prepared, produced, or provided by CONTRACTOR pursuant to this Agreement. In this Agreement, the term "information" shall be construed to mean and include: any and all work product, submittals, reports, plans, specifications, and other deliverables consisting of documents, writings, handwritings, typewriting, printing, photostating, photographing, computer models, and any other computerized data and every other means of recording any form of information, communications, or representation, including letters, works, pictures, drawings,

sounds, or symbols, or any combination thereof. CONTRACTOR shall not be responsible for any unauthorized modification or use of such information for other than its intended purpose by CITY.

- B. CONTRACTOR shall fully defend, indemnify and hold harmless CITY, its officers and employees, and each and every one of them, from and against any and all claims, actions, lawsuits or other proceedings alleging that all or any part of the information prepared, produced, or provided by CONTRACTOR pursuant to this Agreement infringes upon any third party's trademark, trade name, copyright, patent or other intellectual property rights. CITY shall make reasonable efforts to notify CONTRACTOR not later than ten (10) days after CITY is served with any such claim, action, lawsuit or other proceeding, provided that CITY's failure to provide such notice within such time period shall not relieve CONTRACTOR of its obligations hereunder, which shall survive any termination or expiration of this Agreement.
- C. All proprietary and other information received from CONTRACTOR by CITY, whether received in connection with CONTRACTOR's proposal to CITY or in connection with any Services performed by CONTRACTOR, will be disclosed upon receipt of a request for disclosure, pursuant to the California Public Records Act; provided, however, that, if any information is set apart and clearly marked "trade secret" when it is provided to CITY, CITY shall give notice to CONTRACTOR of any request for the disclosure of such information. The CONTRACTOR shall then have five (5) days from the date it receives such notice to enter into an agreement with the CITY, satisfactory to the City Attorney, providing for the defense of, and complete indemnification and reimbursement for all costs (including plaintiff's attorney fees) incurred by CITY in any legal action to compel the disclosure of such information under the California Public Records Act. The CONTRACTOR shall have sole responsibility for defense of the actual "trade secret" designation of such information.
- D. The parties understand and agree that any failure by CONTRACTOR to respond to the notice provided by CITY and/or to enter into an agreement with CITY, in accordance with the provisions of subsection C, above, shall constitute a complete waiver by CONTRACTOR of any rights regarding the information designated "trade secret" by CONTRACTOR, and such information shall be disclosed by CITY pursuant to applicable procedures required by the Public Records Act.

8. **Standard of Performance.** CONTRACTOR shall perform all Services required pursuant to this Agreement in the manner and according to the standards currently observed by a competent practitioner of CONTRACTOR's profession in California. All products of whatsoever nature that CONTRACTOR delivers to CITY pursuant to this Agreement shall be prepared in a professional manner and conform to the standards of quality normally observed by a person currently practicing in CONTRACTOR's profession, and shall be provided in accordance with any schedule of performance specified in Exhibit A. CONTRACTOR shall assign only competent personnel to perform Services pursuant to this Agreement. CONTRACTOR shall notify CITY in writing of any changes in CONTRACTOR's staff assigned to perform the Services required under this Agreement, prior to any such performance. In the event that CITY, at any time during the term of this Agreement, desires the removal of any person assigned by CONTRACTOR to perform Services pursuant to this Agreement, because CITY, in its sole discretion, determines that such person is not performing in accordance with the standards required herein, CONTRACTOR shall remove such person immediately upon receiving notice from CITY of the desire of CITY for the removal of such person.

9. **Term; Suspension; Termination.**

- A. Termination for Cause. If the City determines that the Contractor's performance is not satisfactory, and notifies the Contractor of such determination in writing, the Contractor shall

correct the unsatisfactory condition(s) within 5 days after receiving such notification. If the Contractor fails to correct the unsatisfactory condition(s) within 5 days, the City may declare the Contract terminated upon 30 days written notice and may, in the City's sole discretion, demand performance by the Contractor's surety, if any, or contract for performance of all or part of the remainder of Contract with another contractor. In the event two such notices of unsatisfactory performance are given in any calendar year, and in the event that Contractor shall again fail to satisfactorily perform pursuant to the Contract, City may thereupon terminate the Contract immediately, with no prior notice. In the event of termination hereunder, the Contractor and/or its surety shall be liable and assessed for any and all costs for re-procurement and completion of the Contract.

- B. Termination for Convenience. The City may terminate the Contract, in whole or in part, for its convenience and without cause upon giving written notice to the Contractor. The City shall pay all reasonable costs associated with the Contract that the Contractor has incurred up to the date of termination and all reasonable costs associated with such termination of the Contract. However, the Contractor shall not be reimbursed for any anticipatory profits that have not been earned, or any other costs, which have not been incurred, as of the date of termination.
- C. Termination After Completion Date. If the Contractor fails to complete its performance of the Contract within the time specified in the Contract (including any approved extension of such time), if any, the Contract may be terminated and, in the event of such termination, the Contractor shall not be paid or allowed any further compensation for any costs incurred after such termination. The City may thereafter proceed to complete the Contract either by rebidding or otherwise, the Contractor and its surety, if any, shall be liable to the City for all loss or damage that the City may suffer on account of the Contractor's failure to complete the Contract on time. This Agreement shall become effective on the date that it is approved by both parties, set forth on the first page of the Agreement, and shall continue in effect until both parties have fully performed their respective obligations under this Agreement, unless sooner terminated as provided herein.

**10. Indemnity.**

- A. Indemnity: CONTRACTOR shall defend, hold harmless and indemnify CITY, its officers and employees, and each and every one of them, from and against any and all actions, damages, costs, liabilities, claims, demands, losses, judgments, penalties, costs and expenses of every type and description, including, but not limited to, any fees and/or costs reasonably incurred by CITY's staff attorneys or outside attorneys and any fees and expenses incurred in enforcing this provision (hereafter collectively referred to as "Liabilities"), including but not limited to Liabilities arising from personal injury or death, damage to personal, real or intellectual property or the environment, contractual or other economic damages, or regulatory penalties, arising out of or in any way connected with performance of or failure to perform this Agreement by CONTRACTOR, any subcontractor or agent, anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable, whether or not (i) such Liabilities are caused in part by a party indemnified hereunder or (ii) such Liabilities are litigated, settled or reduced to judgment; provided that the foregoing indemnity does not apply to liability for any damage or expense for death or bodily injury to persons or damage to property to the extent arising from the sole negligence or willful misconduct of CITY, its agents, servants, or independent contractors who are directly responsible to CITY, except when such agents, servants, or independent contractors are under the direct supervision and control of CONTRACTOR.
- B. Insurance Policies: Intellectual Property Claims: The existence or acceptance by CITY of any of the insurance policies or coverages described in this Agreement shall not affect or limit any of



- (1) Commercial General Liability Insurance: The CITY, its officials, employees and volunteers shall be covered by policy terms or endorsement as additional insured's as respects general liability arising out of activities performed by or on behalf of CONTRACTOR, products and completed operations of CONTRACTOR, and premises owned, leased or used by CONTRACTOR. The general liability additional insured endorsement must be signed by an authorized representative of the insurance carrier for contracts involving construction or maintenance, or if required by the CITY by selecting the option below:

\_\_\_\_\_ Additional insured endorsement must be signed by an authorized representative of the insurance carrier.

If the policy includes a blanket additional insured endorsement or contractual additional insured coverage, the above signature requirement may be fulfilled by submitting that document with a signed declaration page referencing the blanket endorsement or policy form.

- (2) Automobile Liability Insurance: The CITY, its officials, employees and volunteers shall be covered by policy terms or endorsement as additional insured's as respects auto liability.

C. Other Insurance Provisions

The policies are to contain, or be endorsed to contain, the following provisions:

- (1) CONTRACTOR's insurance coverage shall be primary insurance as respects CITY, its officials, employees and volunteers. Any insurance or self-insurance maintained by CITY, its officials, employees or volunteers shall be in excess of CONTRACTOR's insurance and shall not contribute with it.
- (2) Any failure to comply with reporting provisions of the policies shall not affect coverage provided to CITY, its officials, employees or volunteers.
- (3) Coverage shall state that CONTRACTOR's insurance shall apply separately to each insured against whom claim is made or suit is brought, except with respect to the limits of the insurer's liability.
- (4) CITY will be provided with thirty (30) days written notice of cancellation or material change in the policy language or terms.

D. Acceptability of Insurance

Insurance shall be placed with insurers with a Bests' rating of not less than A:V. Self-insured retentions, policy terms or other variations that do not comply with the requirements of this Section 11 must be declared to and approved by the CITY Risk Management Division in writing prior to execution of this Agreement.

E. Verification of Coverage

- (1) CONTRACTOR shall furnish CITY with certificates and required endorsements evidencing the insurance required. The certificates and endorsements shall be forwarded to the CITY representative named in Exhibit A. Copies of policies shall be

delivered to the CITY on demand. Certificates of insurance shall be signed by an authorized representative of the insurance carrier.

- (2) The CITY may withdraw its offer of contract or cancel this Agreement if the certificates of insurance and endorsements required have not been provided prior to execution of this Agreement. The CITY may withhold payments to CONTRACTOR and/or cancel the Agreement if the insurance is canceled or CONTRACTOR otherwise ceases to be insured as required herein.

F. Subcontractors

CONTRACTOR shall require and verify that all subcontractors maintain insurance coverage that meets the minimum scope and limits of insurance coverage specified in subsection A, above.

**12. Equal Employment Opportunity.** During the performance of this Agreement, CONTRACTOR, for itself, its assignees and successors in interest, agrees as follows:

- A. Compliance With Regulations: CONTRACTOR shall comply with the Executive Order 11246 entitled "Equal Opportunity in Federal Employment", as amended by Executive Order 11375 and 12086, and as supplemented in Department of Labor regulations (41 CFR Chapter 60), hereinafter collectively referred to as the "Regulations".
- B. Nondiscrimination: CONTRACTOR, with regards to the work performed by it after award and prior to completion of the work pursuant to this Agreement, shall not discriminate on the ground of race, color, religion, sex, national origin, age, marital status, physical handicap or sexual orientation in selection and retention of subcontractors, including procurement of materials and leases of equipment. CONTRACTOR shall not participate either directly or indirectly in discrimination prohibited by the Regulations.
- C. Solicitations for Subcontractors, Including Procurement of Materials and Equipment: In all solicitations either by competitive bidding or negotiations made by CONTRACTOR for work to be performed under any subcontract, including all procurement of materials or equipment, each potential subcontractor or supplier shall be notified by CONTRACTOR of CONTRACTOR's obligation under this Agreement and the Regulations relative to nondiscrimination on the ground of race, color, religion, sex, national origin, age, marital status, physical handicap or sexual orientation.
- D. Information and Reports: CONTRACTOR shall provide all information and reports required by the Regulations, or by any orders or instructions issued pursuant thereto, and shall permit access to its books, records, accounts, other sources of information and its facilities as may be determined by the CITY to be pertinent to ascertain compliance with such Regulations, orders and instructions. Where any information required of CONTRACTOR is in the exclusive possession of another who fails or refuses to furnish this information, CONTRACTOR shall so certify to the CITY, and shall set forth what efforts it has made to obtain the information.
- E. Sanctions for Noncompliance: In the event of noncompliance by CONTRACTOR with the nondiscrimination provisions of this Agreement, the CITY shall impose such sanctions as it may determine to be appropriate including, but not limited to:
  - (1) Withholding of payments to CONTRACTOR under this Agreement until CONTRACTOR complies;
  - (2) Cancellation, termination, or suspension of the Agreement, in whole or in part.

- F. Incorporation of Provisions: CONTRACTOR shall include the provisions of subsections A through E, above, in every subcontract, including procurement of materials and leases of equipment, unless exempted by the Regulations, or by any order or instructions issued pursuant thereto. CONTRACTOR shall take such action with respect to any subcontract or procurement as the CITY may direct as a means of enforcing such provisions including sanctions for noncompliance; provided, however, that in the event CONTRACTOR becomes involved in, or is threatened with, litigation with a subcontractor or supplier as a result of such direction, CONTRACTOR may request CITY to enter such litigation to protect the interests of CITY.
13. **Entire Agreement.** The Contract Documents contain the entire agreement between the parties and supersedes whatever oral or written understanding they may have had prior to the execution of this Contract. No alteration to the terms of this Contract shall be valid unless approved in writing by Contractor, and by City, in accordance with applicable provisions of the Sacramento City Code. In the event of any conflict among the provisions of different Contract Documents, the conflict shall be resolved by giving precedence to the Contract Documents in the following order:
- A. Post-Award Amendments.
  - B. Pricing Schedule(s), as corrected by City, if applicable.
  - C. Pre-Award Addenda
  - D. Special Provisions.
  - E. Bid Instructions and Requirements
  - F. General Conditions
  - G. Technical Specifications and/or Plans
14. **Severability.** If any portion of this Agreement or the application thereof to any person or circumstance shall be held invalid or unenforceable, the remainder of this Agreement shall not be affected thereby and shall be enforced to the greatest extent permitted by law.
15. **Waiver.** Neither CITY acceptance of, or payment for, any Service or Additional Service performed by CONTRACTOR, nor any waiver by either party of any default, breach or condition precedent, shall be construed as a waiver of any provision of this Agreement, nor as a waiver of any other default, breach or condition precedent or any other right hereunder.
16. **Enforcement of Agreement.** This Agreement shall be governed, construed and enforced in accordance with the laws of the State of California. Venue of any litigation arising out of or connected with this Agreement shall lie exclusively in the state trial court or Federal District Court located in Sacramento County in the State of California, and the parties consent to jurisdiction over their persons and over the subject matter of any such litigation in such courts, and consent to service of process issued by such courts.
17. **Assignment Prohibited.** The expertise and experience of CONTRACTOR are material considerations for this Agreement. CITY has a strong interest in the qualifications and capability of the persons and entities who will fulfill the obligations imposed on CONTRACTOR under this Agreement. In recognition of this interest, CONTRACTOR shall not assign any right or obligation pursuant to this Agreement without the written consent of the CITY. Any attempted or purported assignment without CITY's written consent shall be void and of no effect.
18. **Binding Effect.** This Agreement shall be binding on the heirs, executors, administrators, successors and assigns of the parties, subject to the provisions of Section 17, above.
19. **Compliance with Laws.** The Contractor shall be responsible for strict compliance with all applicable laws, regulations, court orders and other legal requirements applicable to the work to be accomplished

pursuant to the Contract, including without limitation the California Occupational Safety and Health Act and all applicable safety orders issued by the Division of Occupational Safety and Health, Department of Industrial Relations, State of California, and all applicable requirements of Underwriters Laboratories and the Federal Communication Commission.

20. **Inspection.** Merchandise will be inspected before acceptance by an authorized representative of the City of Sacramento for workmanship, appearance, proper functioning of all equipment and systems and conformance to all other requirements of the Contract. If deficiencies are found, it shall be the responsibility of the Contractor to pick up the merchandise, make necessary correction and redeliver the merchandise for re-inspection and acceptance. Payment and/or commencement of discount period (if applicable) will not be made until corrective action has been made.
21. **Funding Availability.**
- A. The Contract is subject to the budget and fiscal provisions of the Charter and City Code of the City of Sacramento.
  - B. The City's payment obligation under the Contract shall not at any time exceed the amount of funds appropriated and approved for such purpose by the Sacramento City Council.
  - C. The Contract shall terminate without penalty at the end of the fiscal year in the event funds to make payment under the Contract are not appropriated and approved for such purpose by the City Council for the succeeding fiscal year. If such funds are appropriated for only a portion of the fiscal year this Contract shall terminate, without penalty, at the end of the term for which funds have been appropriated. In the event of such termination, the Contractor shall not be entitled to recover any costs incurred after termination, subject, further, to the limitation in subsection 11.B. of these General Conditions.
  - D. Notwithstanding any provision of the Contract Documents to the contrary, this section shall govern over any other provision of the Contract.
22. **Inspection of Facilities.** If requested by the City, the Contractor shall provide City with an inspection tour of Contractor's facilities at the location where the work under the Contract will be accomplished.
23. **Material Safety Data Sheets (MSDS).** It is mandatory for a manufacturer, Contractor or distributor to supply a MSDS with the first shipment of any hazardous material. Also at any time the content of an MSDS is revised, the Contractor shall provide new information relevant to the specific material.
24. **Notification of Material Changes in Business.** Contractor agrees that if it experiences any material changes in its business including, without limitation, a reorganization, refinancing, restructuring, leveraged buyout, bankruptcy, loss of key personnel, etc., it will immediately notify the City of the changes. Contractor also agrees to immediately notify the City of any condition which may jeopardize the scheduled delivery or fulfillment of Contractor's contractual obligations to the City. Upon filing for any bankruptcy or insolvency proceeding by or against the Contractor, whether voluntary or involuntary, or upon the appointment of a receiver, trustee, or assignee for the benefit of creditors, the Procurement Services Division reserves the right at its sole discretion to terminate the Contract either for cause or for convenience as provided in Section 9 of these General Conditions.
25. **Payment and Invoicing.** Unless otherwise specified in the Contract Documents, payment for services rendered or materials provided and accepted by City will be made monthly, in arrears, after receipt of a proper invoice.
26. **Protection of Existing Facilities.** Contractor shall take every precaution to protect all public and

private property during the performance of the Contract. Any damages caused by Contractor's personnel or equipment will be promptly repaired to the condition existing before the damage or be replaced. All such costs for such repairs or replacement shall be the sole responsibility of the Contractor.

27. **Guarantee.** By submitting its bid, the Contractor guarantees that all merchandise delivered and/or work or services performed under the Contract shall meet the minimum requirements set forth herein. If it is determined by the City that the merchandise delivered or work or services performed do not meet the minimum requirements of the Contract, the Contractor shall be required to correct the same at Contractor's sole expense.

**SECTION II – CONTRACT DOCUMENTS**

**B. SPECIAL PROVISIONS**

**ENVIRONMENTALLY PREFERABLE PROCUREMENT**

The City has adopted a "Sustainable Procurement Policy (SPP) and program. The goal is to encourage the procurement of products and services that help minimize environmental impact resulting from use and disposal of these products. Contractors are encouraged to offer Energy Star, Green Seal, EcoLogo, EPEAT, or products that meet FEMP (Federal Energy Management Program) standards for energy consumption. City also encourages contractors to offer products that are produced with recycled materials, where appropriate, unless otherwise requested in this IFB. Contractors will offer products that have minimal virgin materials and maximum use of recycled products. Contractor must work with the City to attain these goals.

Notwithstanding the above, the Contractor agrees to supply the City of Sacramento with environmentally preferable and effective products in compliance with the specifications in this solicitation and provide services that help minimize environmental impact resulting from use and disposal of products specified in this bid.

The Contractor further agrees that its products specified in this bid do not contain any items, ingredients or components prohibited under the City's SPP Policy.

The City may terminate this contract or take other appropriate actions if the contractor fails to comply or provide adequate supporting documentation to substantiate compliance with the City's SP Policy and requirements specified in the bid.

The City's SPP Policy is available on line at:

[http://www.cityofsacramento.org/generalservices/procurement/documents/Sustainable Purchasing Policy SPP.pdf](http://www.cityofsacramento.org/generalservices/procurement/documents/Sustainable_Purchasing_Policy_SPP.pdf) or by contacting the Procurement Services Division at (916) 808-6240.

**SECTION II – CONTRACT DOCUMENTS**

**C. TECHNICAL SPECIFICATIONS/PLANS/OTHER REQUIREMENTS**

**GREEN FACILITY PROGRAM  
SACRAMENTO CENTRAL LIBRARY**

**CONDENSING HOT WATER HEATING BOILER**

**GENERAL SCOPE**

The purpose of this solicitation is to procure hot water heating condensing boilers, complete with flue stacks, burners and controls as specified in these specifications and capacities as shown in the schedule at the end.

**GENERAL**

**1.01 SUMMARY**

- A. The hydronic heating boiler shall be High Efficiency condensing hot water heating boiler design certified by CSA International and shall meet the requirements of ANSI Z21.13 and CSA 4.9. The boiler shall bear the ASME "H" stamp for maximum pressure working pressure of 160 PSIG at 210° F temperature and shall be national board listed where required. The boiler shall be constructed on heavy steel frame and heavy gauge painted steel housing assembled utilizing interference fit locks and minimal non-strip self tap screws. The heating boiler shall be vented as a Category IV condensing appliance.
- B. Any exceptions/deviations to this specification shall be indicated in writing and submitted no less than one week prior to bid date.

**1.02 SUBMITTALS**

- A. Product Data: Include performance data, operating characteristics, furnished specialties, and accessories.
- B. Shop Drawings: For boilers, boiler trim, and accessories. Include plans, elevations, sections, details, and attachments to other Work. Include wiring diagrams.
- C. Source quality-control test reports.
- D. Startup service reports.
- E. Operation and maintenance data: Include electronic copy (CD) and three hard copies.
- F. Warranties.

**1.03 QUALITY ASSURANCE**

- A. The boilers will be completely assembled, wired, and fire-tested prior to shipment from the factory. The boilers will be furnished with ASME Manufacturer's Data Reports, inspection sheet, wiring diagram, rating plate and Installation and Operating Manual.
- B. The boilers manufacturer shall comply with the "Buy American" provision of the American Recovery and Reinvestment Act (ARRA) 2009 Section 1605 and to sign statement of compliance as shown at the end of this section.
- C. The boiler shall comply with any applicable Best Available Control Technology (BACT) requirements as required in Sacramento Metropolitan Air Quality Management District (SMAQMD) Rule 202, New Source Review; and comply with the applicable NOx and CO

limits as specified in SMAQMD Rule 411, NOx from Boiler, Process heaters, and Steam Generators.

- D. The boiler shall be design certified by CSA International. The boiler shall bear the ASME "H" stamp.

**1.04 WARRANTY**

- A. The boiler manufacturer shall guarantee in writing the equipment to be free of defects for five years after start-up date, and to repair or replace at the manufacturer's expense any defective parts. Unit shall receive such factory tests as are deemed advisable by the manufacturer.
- B. Each boiler shall be completely tested before leaving the manufacturing factory. This includes a hydrostatic pressure test prior to final assembly and factory test fired prior to shipment. Combustion must be set on all fuels and all firing rates. A factory test fire report and wiring diagram shall be provided with each boiler.
- C. The pressure vessel shall be guaranteed against thermal shock for 10 years (non-prorated) when utilized in a closed loop hydronic heating system with a maximum temperature differential rating of up to:
  - 1. Carbon Steel Units: 170 degrees Fahrenheit
  - 2. Duplex Alloy Steel Units: 100 degrees Fahrenheit.The boiler pressure vessel shall be guaranteed accordingly without a minimum return water temperature requirement. The boiler shall not require the use of flow switches or other devices to ensure a minimum flow through the boiler.
- D. The pressure vessel shall carry a 10-year warranty against material and workmanship defects. This warranty shall be non-prorated for the first 7 years and years 8-10 shall be pro-rated as per schedule posted on the current product warranty.
- E. The combustor and exhaust pipes (heat exchanger) shall be guaranteed against flue gas corrosion for a period of 10 years on carbon steel boilers or duplex alloy steel boilers. This warranty shall be non-prorated for the first 7 years and years 8-10 shall be pro-rated as per schedule posted on the current product warranty.
- F. All parts not covered by the above warranty shall carry a five (5)-year warranty. This shall include all parts and labor of components.

**1.05 REFERENCE CODES AND STANDARDS**

All equipment, materials and workmanship shall conform to the current edition of the following codes and standards.

- A. Hydraulic Institute
- B. ANSI – American National Standards Institute
- C. ASME – American Society of Mechanical Engineers – Boiler and Pressure Vessel Code; Section IV.
- D. ASTM – American Society of Testing and Materials.
- E. OSHA – Occupational Safety and Health Administration.
- F. NEC – National Electric Code.
- G. Title 24 – California Building Energy Efficiency Standards.

**PART 2 - PRODUCTS**

**2.01 MANUFACTURERS**

- A. Available Manufacturers: The boilers shall be subject to compliance with Buy American requirements of "Section 1605 of American Recovery and Reinvestment Act 2009 (the "ARRA") as stated at the end of this section.
- B. All invoices for any equipment purchases shall say "final assembly in America".
- C. Manufacturers: Subject to compliance with requirements, manufacturers offering Condensing Hot Water Heating boilers by one of the following or equivalent:
  - 1. Fulton Heating Solutions, Inc.  
EWT 160°F100% firing efficiency 85.5%
  - 2. Bryan Boilers.  
EWT 160°F100% firing efficiency 90%
  - 3. AERCO Hot Water System  
EWT 160°F100% firing efficiency 86%
  - 4. Or approved equal by city engineer.

**2.02 PACKAGED HOT WATER CONDENSING BOILERS**

- A. Description: Factory-fabricated, -assembled, and -tested condensing boiler with heat exchanger sealed pressure-tight, insulated stainless steel casing, water supply and return connections, and controls.
- B. Boiler Characteristics and Capacities:
  - 1. Heating Medium: Hot water.
  - 2. ASME Rating: 160 psig
  - 3. Entering-Water Temperature: 140 deg F
  - 4. Leaving-Water Temperature: 180 deg F
  - 5. High Efficiency Boiler

**2.03 PACKAGED CONDENSING BOILERS COMPONENTS**

- A. Boiler shall be a compact type with ultra low emission (<30ppm) and high efficiency condensing technology herein listed. The boiler shall be designed for natural gas firing. Gas supply pressure to the boiler gas pressure-regulating valve shall be 5 to 14 IWC. The burner will be a forced draft design with gas and combustion air premixed prior to the burner head. The boiler, and burner, will be supplied by the same manufacturer to assure compatibility and single source responsibility for the package performance. The boilers will be constructed in accordance with ASME Section IV Code.
- B. The heat exchanger shall be inspected and tested to A.S.M.E. Section IV requirements. The heat exchanger shall be counter-flow water tube design.
- C. The combustion chamber shall be an integral part of the heat exchanger which shall be an all welded cylindrical counter-flow design consisting of an upper burner section for primary heat transfer and a lower section for extracting latent heat from flue gases.
- D. Other
  - 1. Burner access cover to be removable. Fastened with bolts and locating dowels.
  - 2. Burner observation port.
  - 3. High Limit Temperature Controller, manual reset type.
  - 4. Air Safety Switch to prevent operation until sufficient pre-purge air is assured.
  - 5. Alarm Horn and Silence Switch with auto reset.
  - 6. Sound Isolation Package shall include: Gas Flex Connector, Water Flex Connectors, Intake Muffler, and Exhaust Muffler.
  - 7. Seismic Spring Isolators.

- 8. Condensate Drain Kit.
- 9. Low Water Cut off.
- 10. Additional Low Water Cut Off Switch with Auto Reset.
- 11. Built and Certified to ASME Code-CSA Approved.
- E. ASME Code relief valves with side outlet set for 125 psig.

**2.04 BOILER CONNECTIONS**

- A. Water connections. A series of "V" shaped baffles are installed between the individual tubes to control the movement of the flue products over the finned tubes to maximize efficiencies.

**2.05 BOILER START UP SERVICE**

- A. Engage a factory-authorized service representative to test, inspect, and adjust boiler components and equipment installation and to perform startup service.
- B. Perform installation and startup checks according to manufacturer's written instructions.
- C. Leak Test: Hydrostatic test at 30psig. Repair leaks and retest until no leaks exist.
- D. Operational Test: Start units to confirm proper motor rotation and unit operation. Adjust air-fuel ratio and combustion.
- E. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.
- F. Adjust initial temperature set points.
- G. Set field-adjustable switches and circuit-breaker trip ranges as indicated.
- H. Prepare written report that documents testing procedures and results.
- I. Supplier shall have a local service presence and have 24 / 7 service capabilities.

**2.06 DEMONSTRATION**

- A. Engage a factory-authorized service representative to train Owner's maintenance personnel to adjust, operate, and maintain the boilers and provide the following:
  - 1. Three copies of O & M materials
  - 2. Three copies of all start up reports.
  - 3. All programming soft ware and O & M compact disc.

**2.07 COMPUTERIZED BURNER CONTROL**

- A. Boiler Burner controls shall be an integrated, digital modulating controller
- B. Honeywell Sola S7999B1026 or equivalent operating control
- C. Controller shall provide the following functions
  - 1. Color touch screen user interface
  - 2. Inlet; outlet, stack, temperature readouts
  - 3. Flame rectification signal readout
  - 4. BACNET
  - 5. UL 353 listed temperature discharge high limit
  - 6. Boiler modulation to shut down on high temperature flue gas detection
  - 7. The controller shall employ a direct spark ignition with three (3) trials for ignition followed by a lock-out condition
  - 8. Flame rectification signal readout
  - 9. Digital safety annunciation
    - a. Flow Switch

- b. High Limit
- c. High gas pressure switch
- d. Low gas pressure switch
- e. Air switch
- f. Error history with date & time stamps
- g. Outdoor reset programming
- h. Infinitely adjustable firing rate for combustion tests
- i. Password access for service personnel
- j. Monitor and control up to 8 boilers off a single display
- k. Trend data for ease of troubleshooting

## 2.08 BURNER DESIGN

- A. Burner shall be a unitized Venturi, gas valve, blower, and burner head design.
- B. Burner shall incorporate a variable speed DC combustion air fan capable of modulating the burner at a 5:1 ratio from high fire to low fire.
- C. Burner head shall be constructed of a metal alloy for solid body radiation of the burner flame.
- D. Burner shall produce less than 60-dBA sound reading at full firing rate.
- E. Burner design shall have provision for induction of outside combustion air for sealed combustion.

## PART- 3 BOILER STACKS SECTION INCLUDES

- A. Manufactured chimneys for category IV gas fired equipment

## 3.01 REFERENCES

- A. ANSI Z228.1 (NFPA 54) – The National Fuel Gas Code
- B. ASHRAE – Handbook, equipment Volume, Chapter “Chimney, Gas, Vent, and Fireplace Systems”
- C. NFPA 211 – Standard for Chimneys, Fireplace, Vents, and Solid Fuel – Burning Appliances
- D. SMACNA – HVAC Duct Construction Standards – Metal and flexible
- E. UL 1738 – Standard for Venting Systems for Gas-Burning Appliances Categories II, III, and IV

## 3.02 DEFINITIONS

- A. **Breeching:** The conduit conveying flue gas from the appliance to the chimney.
- B. **Chimney:** A structure containing one or more vertical or nearly vertical Passage ways for conveying flue gases to the outside.
- C. **Vent:** A flue gas conveying system intended for use only with certain gas, liquid, or pellet fuel-fired appliances that do not produce flue gas outlet temperatures higher than a value specified in the listing vent standards.
- D. **Vent Connector:** The pipe that connects a fuel-burning appliance to a gas vent or Type L vent.
- E. **Venting System:** A continuous, open passageway from the flue collar or draft hood of a fuel-burning appliance to the outside atmosphere for the purpose of removing flue gases.

## 3.03 SUBMITTALS

- A. Submit shop drawings indicating general construction, dimensions, support, and layout of breechings. Where factory built units are used, submit layout drawings including plan view and elevations.
- B. Submit complete product data.
- C. Submit product data indicating factory built chimneys, including dimensional details of components and flue caps, dimensions and weights.
- D. Submit manufacturer's installation instructions.

**3.04 QUALIFICATIONS**

- A. Manufacturer: Company specializing in the manufacture of products specified in this Section with minimum three years documented experience.

**3.05 REGULATORY REQUIREMENTS**

- A. Conform to applicable ANSI Z223.1 code (NFPA 54) for installation of natural gas burning appliances and equipment.

**3.06 MANUFACTURERS**

- A. Van-Packer Co., Inc.
- B. Metal-Fab
- C. Heat-Fab
- D. Or approved equal approved by the City engineer.

**3.07 DOUBLE WALL METAL STACKS**

- A. Provide double wall metal vents, tested to UL 1738 and UL listed for use with category IV gas fired appliances.
- B. Vent shall be rated for 550° F. and 5" water column positive pressure.
- C. Fabricate with 1-inch minimum air space between walls. Construct inner liner of 24 gauge minimum corrosion resistant stainless steel in accordance with UL listing. Construct outer shell of 24 gauge minimum (type 430 stainless steel).
- D. Vent shall be listed for 2" clearance to combustibles and 0" clearance to non-combustibles.
- E. Provide all required accessories for a complete system each bearing factory applied UL Label, including but not limited to supports, appliances connectors, drain fittings, and terminations.

**BOILERS SCHEDULE**

UNIT	INPUT MBTUH	MINIMUM EFFICIENCY	FUEL	NOx	VOLT	PHASE	AMPS
HWB-1	2,000	See Section 2.01-C	NG	<30PPM	120	1	10
HWB-2	2,000	See Section 2.01-C	NG	<30PPM	120	1	10

**Note:**

- 1. Boiler supplied with natural gas burner complete with all required control.
- 2. The boiler supplied with flue stack vented with manufactured UL/ULC listed vent of AL29-4C for flue double wall with stainless steel shell.

## BUY AMERICAN ISSUES IN THE RECOVERY ACT FOR FINANCIAL ASSISTANCE AGREEMENTS

The Office of Management and Budget (OMB) issued interim guidance for financial assistance actions funded by the Recovery Act in March 2009. Public comments on the interim guidance have been received and are currently being analyzed by OMB. The following questions and answers address many issues that are expected to be clarified in OMB's final guidance, and will be updated as needed.

### **1. What are the Buy American restrictions in the Recovery Act?**

The Buy American provision in the Recovery Act (section 1605 of Title XI), directs that, subject to certain exceptions, no funds appropriated or otherwise made available for a project may be used for the construction, alteration, or repair of a public building or public work unless all the iron, steel, and manufactured goods used are produced in the United States.

### **2. Does the Buy American provision apply to all projects funded by the Recovery Act?**

No. The law covers Recovery-Act-funded federal contracts and Recovery-Act-funded state and local public works projects. For recipients of Federal contract awards directly from the Federal government, guidance is provided at FAR Subpart 25.6, as published in the interim rule in 74 Federal Register 14623 on March 31, 2009.

### **3. How do financial assistance applicants know if the Buy American requirements apply to their project?**

Applicants should first read the information regarding Buy American requirements contained in OMB guidance located in Title 2 of the Code of Federal Regulations Part 176 (2 CFR 176) at <http://www.gpoaccess.gov/CFR/>. Then, for further clarification, applicants should consult with the Contracting Officer in the DOE office that is issuing the specific project announcement.

### **4. What is a public works project?**

Public building or public work means a public building of, and a public work of, a governmental entity (the United States; the District of Columbia; commonwealths, territories, and minor outlying islands of the United States; State and local governments; and multi-State, regional, or interstate entities which have governmental functions). These buildings and works may include, without limitation, bridges, dams, plants, highways, parkways, streets, subways, tunnels, sewers, mains, power lines, pumping stations, heavy generators, railways, airports, terminals, docks, 2 piers, wharves, ways, lighthouses, buoys, jetties, breakwaters, levees, and canals, and the construction, alteration, maintenance, or repair of such buildings and works.

### **5. What is a "manufactured good"?**

A manufactured good is a good brought to the construction site for incorporation into the building or work that has been processed into a specific form and shape; or combined with another raw material to create a material that has different properties than the properties of the individual raw materials. (See 2 CFR 176.140(a)(1)). There is no requirement with regard to the origin of components or subcomponents in manufactured goods used in a project, as long as the manufacturing occurs in the United States. (See 2 CFR 85.3).

The interim final guidance at 2 CFR part 176 requires that the manufactured good be incorporated into the project. A crane used to lift items to and from the construction site would not be a covered manufactured good while an energy meter that is brought to the site for incorporation into a building would be covered. The parts that go into a meter brought to the construction site for incorporation into the building would be considered components and, therefore, would not be covered.

**6. What is an "alteration"?**

An alteration is defined as a limited construction project for an existing building that comprises the modification or replacement of one or a number of existing building systems or components. Alteration means remodeling, improving, extending, or making other changes to a facility, exclusive of maintenance repairs that are preventive in nature. The term includes planning, engineering, architectural work, and other similar actions.

**7. Does Buy American apply to privately owned improvements to public buildings and works?**

The question to answer is who owns the project, not who is doing the work. If a state/local government entity "owns" the building/work project, it is a public building/work that would be subject to Sec. 1605 (unless exempted). The interim rule applies Sec. 1605 to any building/work that is constructed, altered, repaired, or maintained with Recovery Act funds without regard to title.

**8. Is it true that non-manufactured construction materials are not Buy American Act covered?**

Correct, they are not covered under Section 1605 of ARRA.

**9. Is any change to a public building or work considered construction, alteration, modification, or repair and would therefore prompt the Buy American Act Requirement? Or are minor changes that typically would not be considered a construction activity excluded? If the latter, what is the threshold?**

There is no threshold. Agencies that fully or partially fund construction, alteration, maintenance, or repair of a public works/building project with Recovery Act funds would be subject to the Buy American requirements unless an exemption applies and a waiver is granted. In response to several comments, OMB is looking at the possibility of having a de minimus provision in the final rule, but no final decision has been made yet.

**10. When are alternate proposals allowed?**

When a project proposal includes foreign iron, steel, and/or manufactured goods, other than designated country iron, steel, and/or manufactured goods, that are not listed by the Federal Government at 2 CFR 176.140(b)(2), the applicant may also submit an alternate proposal based on use of equivalent domestic iron, steel, and/or manufactured goods.

If an alternate proposal is submitted, the applicant shall submit a separate cost comparison table prepared in accordance with 2 CFR 176.140(c) and (d) for the proposal that is based on the use of any foreign iron, steel, and or manufactured goods for which the Federal Government has not yet determined an exception applies.

**11. Are there exceptions to the Buy American restrictions?**

Yes, there are three exceptions where:

- Iron, steel, or manufactured goods are not produced in the United States in sufficient and reasonably available quantities and of satisfactory quality;
- Inclusion of iron, steel, or manufactured goods produced in the United States will

- increase the cost of the project by more than 25 percent; Applying the Buy American restriction is inconsistent with the public interest.

Also, the Buy American restriction is not applicable if it is inconsistent with U.S. obligations under international agreements.

### **12. How are exceptions processed?**

Before Recovery Act funds are awarded by the Federal agency or obligated by the recipient for a project for the construction, alteration, maintenance, or repair of a public building or public work, an applicant or recipient may request from the award official a determination concerning the inapplicability of the Buy American restrictions for specifically identified items. The Recovery Act refers to this determination as a waiver of the Buy American provisions.

A prospective applicant requesting a determination regarding the inapplicability of the Buy American restrictions for lack of quantity or quality, increase of cost of the project by more than 25 percent, or inconsistency with the public interest, should submit the request to the award official in time to allow a determination before submission of applications or proposals. The prospective applicant shall include the information and applicable supporting data required by 2 CFR 176.140(c) and (d) in the request. If an applicant has not requested a determination regarding the inapplicability of the Buy American restrictions before submitting its application or proposal, or has not received a response to a previous request, the applicant shall include the information and supporting data in the application or proposal. Exceptions must be approved by the Head of the agency, and published in the Federal Register.

### **13. What about a category exception?**

If the head of the agency makes a determination of inapplicability for a category of cases, it will be published in the Federal Register and posted on the DOE Recovery Act webpage. To date, DOE has issued no categorical waivers for the Buy American requirements.

### **14. What if a project falls under U.S. obligations under international agreements?**

The Buy American restrictions shall not be applied where the iron, steel, or manufactured goods used in the project are from a Party to an international agreement, and the recipient is required under an international agreement to treat the goods and services of that Party the same as domestic goods and services. This obligation only applies with an estimated value of \$7.4M or more and to projects that are not specifically excluded from the application of those agreements.

The international agreements that obligate recipients that are covered under an international agreement to treat the goods and services of a Party the same as domestic goods and services and the respective Parties to the agreements are listed in the regulations at 2 CFR 176.90(b). Recipients are required to treat the goods and services of that Party the same as domestic goods and services are listed in Appendix B to 2 CFR part 176.

It is important to note, as the Appendix indicates, many states have exceptions to the trade agreements depending upon the items to be purchased or the state sub-entity making the purchase. In particular, NAFTA (Canada and Mexico) does not apply to most states and entities listed in the Appendix.



BID NO. B1113101006

DEPARTMENT OF  
GENERAL SERVICES

CITY OF SACRAMENTO  
CALIFORNIA

5730 24<sup>th</sup> St. Bldg. # 4  
Sacramento, CA 95822

FACILITY AND PROPERTY  
MANAGEMENT

Phone: 916-808-1888  
Fax: 916-808-8337

Project: B1113101006 - BOILERS

Federal ID #: 22-2619991 - AERCO INTL. (MANUFACTURER)

BUY AMERICAN REQUIREMENT FOR PROJECTS FUNDED BY THE  
AMERICAN RECOVERY AND REINVESTMENT ACT OF 2009

The Buy American provision of the American Recovery and Reinvestment Act of 2009 (section 1605 of Title XVI), provides that, subject to three listed exceptions, none of the funds appropriated or otherwise made available by the Act may be used for a project for the construction, alteration, or repair of a public building or public work unless all the iron, steel, and manufactured goods used are produced in the United States. A *manufactured good* is defined by the Act as a good brought to the construction site for incorporation into the public building or work that has been processed into a specific form and shape or combined with other materials to create a material that has a different property than the individual raw materials. There is no requirement with regard to the origin of components or subcomponents in manufactured goods used in a project, as long as the manufacturing occurs in the United States.

This is a project for construction, alteration, maintenance or repair of a public building or public work and is funded in whole or in part by funds provided by the American Recovery and Reinvestment Act of 2009. Therefore, all of the iron, steel and manufactured goods used in the project are produced in the United States.

The Contractor hereby, agrees, represents and warrants that (a) the Contractor has reviewed and understands the Buy American requirements of the American Recovery and Reinvestment Act of 2009; and (b) the iron, steel and manufactured goods used in the project will be or have been produced or manufactured in a manner that complies with the Buy American requirements of the American Recovery and Reinvestment Act of 2009.

Contractor: CLYDE EQUIPMENT CO., INC.

Name of Company

[Handwritten Signature]

2/15/11

Authorized Signature

Date

SENIOR SALES ENGINEER

Title

(SEE ATTACHED)

**GREEN FACILITY PROGRAM  
SAMUEL PANNELL COMMUNITY CENTER**

**CONDENSING HOT WATER HEATING BOILER**

**GENERAL SCOPE**

The purpose of this solicitation is to procure hot water heating condensing boilers, complete with flue stacks, burners and controls as specified in this specification and capacities as shown in the schedule at the end.

**GENERAL**

**1.01 SUMMARY**

A. The hydronic heating boiler shall be High Efficiency condensing hot water heating boiler design certified by CSA International and shall meet the requirements of ANSI Z21.13 and CSA 4.9. The boiler shall bear the ASME "H" stamp for maximum pressure working pressure of 160 PSIG at 210° F temperature and shall be national board listed where required. The boiler shall be constructed on heavy steel frame. And heavy gauge painted steel housing assembled utilizing interference fit locks and minimal non-strip self tap screws. The heating boiler shall be vented as a Category IV condensing appliance.

B. Any exceptions/deviations to this specification shall be indicated in writing and submitted no less than one week prior to bid date.

**1.02 SUBMITTALS**

- A. Product Data: Include performance data, operating characteristics, furnished specialties, and accessories.
- B. Shop Drawings: For boilers, boiler trim, and accessories. Include plans, elevations, sections, details, and attachments to other Work. Include wiring diagrams.
- C. Source quality-control test reports.
- D. Startup service reports.
- E. Operation and maintenance data: Include electronic copy (CD) and three hard copies.
- F. Warranties.

**1.03 QUALITY ASSURANCE**

1.03.1.1 The boilers will be completely assembled, wired, and fire-tested prior to shipment from the factory. The boilers will be furnished with ASME Manufacturer's Data Reports, inspection sheet, wiring diagram, rating plate and Installation and Operating Manual.

1.03.1.2 The boilers manufacturer shall comply with the "Buy American" provision of the American Recovery and Reinvestment Act (ARRA) 2009 Section 1605 and to sign statement of compliance as shown at the end of this section.

1.03.1.3 The boiler shall comply with any applicable Best Available Control Technology (BACT)

requirements as required in Sacramento Metropolitan Air Quality Management District (SMAQMD) Rule 202, New Source Review; and comply with the applicable NOx and CO limits as specified in SMAQMD Rule 411, NOx from Boiler, Process heaters, and Steam Generators.

1.03.1.4 The boiler shall be design certified by CSA International. The boiler shall bear the ASME "H" stamp.

#### 1.04 WARRANTY

- 1.04.1.1 The boiler manufacturer shall guarantee in writing the equipment to be free of defects for five (5) years after start-up date, and to repair or replace at the manufacturer's expense any defective parts. Unit shall receive such factory tests as are deemed advisable by the manufacturer.
- 1.04.1.2 Each boiler shall be completely tested before leaving the manufacturing factory. This includes a hydrostatic pressure test prior to final assembly and factory test fired prior to shipment. Combustion must be set on all fuels and all firing rates. A factory test fire report and wiring diagram shall be provided with each boiler.
- 1.04.1.3 The pressure vessel shall be guaranteed against thermal shock for 10 years (non-prorated) when utilized in a closed loop hydronic heating system with a maximum temperature differential rating of up to:
1. Carbon Steel Units: 170 degrees Fahrenheit
  2. Duplex Alloy Steel Units: 100 degrees Fahrenheit.
- The boiler pressure vessel shall be guaranteed accordingly without a minimum return water temperature requirement. The boiler shall not require the use of flow switches or other devices to ensure a minimum flow through the boiler.
- 1.04.1.4 The pressure vessel shall carry a 10-year warranty against material and workmanship defects. This warranty shall be non-prorated for the first 7 years and years 8-10 shall be pro-rated as per schedule posted on the current product warranty.
- 1.04.1.5 The combustor and exhaust pipes (heat exchanger) shall be guaranteed against flue gas corrosion for a period of 10 years on carbon steel boilers or duplex alloy steel boilers. This warranty shall be non-prorated for the first 7 years and years 8-10 shall be pro-rated as per schedule posted on the current product warranty.
- 1.04.1.6 All parts not covered by the above warranty shall carry a five(5)-year warranty. This shall include all parts and labor of components.

#### 1.05 REFERENCE CODES AND STANDARDS

All equipment, materials and workmanship shall conform to the current edition of the following codes and standards.

- A. Hydraulic Institute
- B. ANSI – American National Standards Institute
- C. ASME – American Society of Mechanical Engineers – Boiler and Pressure Vessel Code; Section IV.
- D. ASTM – American Society of Testing and Materials.
- E. OSHA – Occupational Safety and Health Administration.
- H. NEC – National Electric Code.
- I. Title 24 – California Building Energy Efficiency Standards.

**PART 2 - PRODUCTS**

**MANUFACTURERS**

- 1.05.1.1 Available  
Manufacturers: The boilers shall be subject to compliance with Buy American requirements of "Section 1605 of American Recovery and Reinvestment Act 2009 (the "ARRA") as stated at the end of this section.
- 1.05.1.2 All invoices  
for any equipment purchases shall say "final assembly in America".
- 1.05.1.3 Manufacturer  
s: Subject to compliance with requirements, manufacturers offering Condensing Hot Water Heating boilers by one of the following or equivalent:
  1. Fulton Heating Solutions, Inc.  
EWT 160°F100% firing efficiency 85.5%
  2. Bryan Boilers.  
EWT 160°F100% firing efficiency 90%
  3. AERCO Hot Water System  
EWT 160°F100% firing efficiency 86%
  4. Or approved equal by city engineer.

**2.01 PACKAGED HOT WATER CONDENSING BOILERS**

- A. Description: Factory-fabricated, -assembled, and -tested condensing boiler with heat exchanger sealed pressure-tight, insulated stainless steel casing, water supply and return connections, and controls.
- B. Boiler Characteristics and Capacities:
  1. Heating Medium: Hot water.
  2. ASME Rating: 160 psig
  3. Entering-Water Temperature: 140 deg F
  4. Leaving-Water Temperature: 180 deg F
  5. High Efficiency Boiler

**2.02 PACKAGED CONDENSING BOILERS COMPONENTS**

- A. Boiler shall be a compact type with ultra low emission (<30ppm) and high efficiency condensing technology herein listed. The boiler shall be designed for natural gas firing. Gas supply pressure to the boiler gas pressure-regulating valve shall be 5 to 14 IWC. The burner will be a forced draft design with gas and combustion air premixed prior to the burner head. The boiler, and burner, will be supplied by the same manufacturer to assure compatibility and single source responsibility for the package performance. The boilers will be constructed in accordance with ASME Section IV Code.
- B. The heat exchanger shall be inspected and tested to A.S.M.E. Section IV requirements. The heat exchanger shall be counter-flow water tube design.

- C. The combustion chamber shall be an integral part of the heat exchanger which shall be an all welded cylindrical counter-flow design consisting of an upper burner section for primary heat transfer and a lower section for extracting latent heat from flue gases.
- D. Other
  - 1. Burner access cover to be removable. Fastened with bolts and locating dowels.
  - 2. Burner observation port.
  - 3. High Limit Temperature Controller, manual reset type.
  - 4. Air Safety Switch to prevent operation until sufficient pre-purge air is assured.
  - 5. Alarm Horn and Silence Switch with auto reset.
  - 6. Sound Isolation Package includes: Gas Flex Connector, Water Flex Connectors, Intake Muffler, Exhaust Muffler.
  - 7. Seismic Spring Isolators.
  - 8. Condensate Drain Kit.
  - 9. Low Water Cut off.
  - 10. Additional Low Water Cut Off Switch with Auto Reset.
  - 11. Built and Certified to ASME Code-CSA Approved.
- E. ASME Code relief valves with side outlet set for 125 psig.

### 2.03 BOILER CONNECTIONS

- A. Water connections. A series of "V" shaped baffles are installed between the individual tubes to control the movement of the flue products over the finned tubes to maximize efficiencies.

### 2.04 BOILER START UP SERVICE

- A. Engage a factory-authorized service representative to test, inspect, and adjust boiler components and equipment installation and to perform startup service.
- B. Perform installation and startup checks according to manufacturer's written instructions.
- C. Leak Test: Hydrostatic test at 30psig. Repair leaks and retest until no leaks exist.
- D. Operational Test: Start units to confirm proper motor rotation and unit operation. Adjust air-fuel ratio and combustion.
- E. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.
- F. Adjust initial temperature set points.
- G. Set field-adjustable switches and circuit-breaker trip ranges as indicated.
- H. Prepare written report that documents testing procedures and results.
- I. Supplier shall have a local service presence and have 24 / 7 service capabilities.

### 2.05 DEMONSTRATION

- A. Engage a factory-authorized service representative to train Owner's maintenance personnel to adjust, operate, and maintain the boiler and provide the following.

### 2.06 COMPUTERIZED BURNER CONTROL

- A. Boiler Burner controls shall be an integrated, digital modulating controller
- B. Honeywell Sola S7999B1026 or equivalent operating control
- C. Controller shall provide the following functions
  - 1. Color touch screen user interface
  - 2. Inlet, outlet, stack, temperature readouts
  - 3. Flame rectification signal readout

4. BACNET
5. UL 353 listed temperature discharge high limit
6. Boiler modulation to shut down on high temperature flue gas detection
7. The controller shall employ a direct spark ignition with three (3) trials for ignition followed by a lock-out condition
8. Flame rectification signal readout
9. Digital safety annunciation
  - a. Flow Switch
  - b. High Limit
  - c. High gas pressure switch
  - d. Low gas pressure switch
  - e. Air switch
  - f. Error history with date & time stamps
  - g. Outdoor reset programming
  - h. Infinitely adjustable firing rate for combustion tests
  - i. Password access for service personnel
  - j. Monitor and control up to 8 boilers off a single display
  - k. Trend data for ease of troubleshooting

## 2.07 BURNER DESIGN

- A. Burner shall be a unitized Venturi, gas valve, blower, and burner head design.
- B. Burner shall incorporate a variable speed DC combustion air fan capable of modulating the burner at a 5:1 ratio from high fire to low fire.
- C. Burner head shall be constructed of metal alloy for solid body radiation of the burner flame.
- D. Burner shall produce less than 60-dBA sound reading at full firing rate.
- E. Burner design shall have provision for induction of outside combustion air for sealed combustion.

## PART- 3 BOILER STACKS

### SECTION INCLUDES

- A. Manufactured chimneys for category IV gas fired equipment

### 3.08 REFERENCES

- A. ANSI Z228.1 (NFPA 54) – The National Fuel Gas Code
- B. ASHRAE – Handbook, equipment Volume, Chapter "Chimney, Gas, Vent, and Fireplace Systems"
- C. NFPA 211 – Standard for Chimneys, Fireplace, Vents, and Solid Fuel – Burning Appliances
- D. SMACNA – HVAC Duct Construction Standards – Metal and flexible
- E. UL 1738 – Standard for Venting Systems for Gas-Burning Appliances Categories II, III, and IV

### 3.09 DEFINITIONS

- A. **Breeching:** The conduit conveying flue gas from the appliance to the chimney.
- B. **Chimney:** A structure containing one or more vertical or nearly vertical passage ways for conveying flue gases to the outside.

- C. **Vent:** A flue gas conveying system intended for use only with certain gas, liquid, or pellet fuel-fired appliances that do not produce flue gas outlet temperatures higher than a value specified in the listing vent standards.
- D. **Vent Connector:** The pipe that connects a fuel-burning appliance to a gas vent or Type L vent.
- E. **Venting System:** A continuous, open passageway from the flue collar or draft hood of a fuel-burning appliance to the outside atmosphere for the purpose of removing flue gases.

**3.10 SUBMITTALS**

- A. Submit shop drawings indicating general construction, dimensions, support, and layout of breechings. Where factory built units are used, submit layout drawings including plan view and elevations.
- B. Submit product data.
- C. Submit product data indicating factory built chimneys, including dimensional details of components and flue caps, dimensions and weights.
- D. Submit manufacturer's installation instructions.

**3.11 QUALIFICATIONS**

- A. Manufacturer: Company specializing in the manufacture of products specified in this Section with minimum three years documented experience.

**3.12 REGULATORY REQUIREMENTS**

- A. Conform to applicable ANSI Z223.1 code (NFPA 54) for installation of natural gas burning appliances and equipment.

**3.13 MANUFACTURERS**

- A. Van-Packer Co., Inc.
- B. Metal-Fab
- C. Heat-Fab
- D. Or equal approved by the city engineer.

**3.14 DOUBLE WALL METAL STACKS**

- A. Provide double wall metal vents, tested to UL 1738 and UL listed for use with category IV gas fired appliances.
- B. Vent shall be rated for 550° F. and 5" water column positive pressure.
- C. Fabricate with 1-inch minimum air space between walls. Construct inner liner of 24 gauge minimum corrosion resistant stainless steel in accordance with UL listing. Construct outer shell of 24 gauge minimum (type 430 stainless steel).
- D. Vent shall be listed for 2" clearance to combustibles and 0" clearance to non-combustibles.
- E. Provide all required accessories for a complete system each bearing factory applied UL Label, including but not limited to supports, appliances connectors, drain fittings, and terminations.

**CONDENSING HOT WATER HEATING BOILER**

UNIT	INPUT MBTUH	MINIMUM EFFICIENCY	FUEL	NOx	VOLT	PHASE	AMPS
HWB-1	1,000	See Section 2.01-C	NG	<30 PPM	120	1	4.2

**Note:**

1. Boiler supplied with natural gas burner complete with all required control.
2. The boiler supplied with flue stack vented with manufactured prefabricated UL/ULC listed vents of AL29-4C for flue double wall with aluminized shell.

SECTION III - BIDDER RESPONSE DOCUMENTS

A. PRICING SCHEDULE

QTY	ITEM DESCRIPTION	UNIT PRICE	EXTENDED PRICE
2	Hot Water Heating Boiler, 2,000 MBTUH	\$ 32,121.66	\$ 64,243.32
1	Hot Water Heating Boiler, 1,000 MBTUH	\$ 28,341.68	\$ 28,341.68
	Tax @ 8.75 %		\$ 8,101.19
	Freight Charges		\$ 2,238.00
	<b>Total</b>		<b>\$ 102,924.19</b>

*92,585*

CITY OF SACRAMENTO, CALIFORNIA  
 OFFICE OF SMALL BUSINESS  
 EMERGING AND SMALL BUSINESS DEVELOPMENT PROGRAM

**SMALL BUSINESS CERTIFICATION**

EFFECTIVE THIS DATE: JANUARY 28, 2011

CLAYDE EQUIPMENT CO., INC.  
 IS CERTIFIED AS A SMALL BUSINESS ENTERPRISE

CITY CERTIFICATION NUMBER: 15376

EXPIRATION: 7/31/11

Required Bid Submission	Yes	No
Meets Capacity Requirements	X	
Meets Control Requirements	X	
Meets Specification Requirements		
All supporting documentation for these requirements has been submitted.	X	

\* LIBRARY - EXCEPTIONS: 2.03 - 0 5 - No Alarm Horn 7 - No Seismic Springs 2.07 - C 5 - no control of both boilers / display

\* APPROVED - 2.02 D 5 - No Alarm Horn 6 - No Flex connectors, intake muffler 2.06 B - No Honeywell C-1 - no touch screen

Project delivery time from award of contract (Circle applicable) 30 Days 45 Days 60 Days

PROBABLE SHIP IN 2-3 WEEKS FROM NEW JERSEY

Greg Schmale  
Signature of Authorized Representative

2/15/11  
Date

GREG SCHMABLE  
Print Name

SR. SALES ENGINEER  
Title

**SECTION III**  
**BIDDER RESPONSE DOCUMENTS**

SECTION III – BIDDER RESPONSE DOCUMENTS

**A. ITEMS REQUIRING BIDDER RESPONSE**

**NOTE: Bidders must provide responses where indicated to the following items. Failure to provide a response to each of the items in this section may be grounds for rejection of bid.**

**1. SBE/EBE FIVE PERCENT (5%) BID EVALUATION PREFERENCE**

On February 9, 1999, the Sacramento City Council adopted an Emerging and Small Business Development program to provide enhanced opportunities for the participation of small business enterprises (SBEs) and emerging business enterprises (EBEs) in the City's contracting and procurement activities. Any bid or quotation submitted by a firm that is certified as a SBE by the City of Sacramento, or that is certified as an EBE by the City of Sacramento, will receive a five percent (5%) bid evaluation preference for the purpose of determining the lowest responsible bidder. If, after applying the 5% bid evaluation preference, the bid of an SBE/EBE firm receiving such preference is determined to be the lowest responsible bid, the award will be made for the actual amount bid. To receive this bid evaluation preference, a firm must be certified as a SBE or EBE at the time of bid opening. Questions regarding eligibility for SBE/EBE certification should be addressed to the City of Sacramento Procurement Division, at (916) 808-6747.

**A. SMALL BUSINESS ENTERPRISE (SBE) CERTIFICATION**

Is the firm submitting the bid certified by the City of Sacramento as a small business enterprise? Check the appropriate block below:

**YES** – Our firm is certified by the City of Sacramento as a small business enterprise.

**NO** -Our firm submitting is not certified by the City of Sacramento as a small business enterprise.

If the response to the above is YES, provide the City of Sacramento Certification Number

15376

**B. EMERGING BUSINESS ENTERPRISE (EBE) CERTIFICATION**

Is the firm submitting the bid certified by the City of Sacramento as an *emerging* business enterprise? Check the appropriate block below:

**YES** - Our firm is certified by the City of Sacramento as an emerging business enterprise.

**NO** - Our firm is not certified by the City of Sacramento as an emerging business enterprise.

If the response to the above is YES, provide the City of Sacramento Certification Number: \_\_\_\_\_.

**2. LOCAL BUSINESS SALES/USE TAX DEDUCTION**

The Sacramento City Code requires the City to identify those bids that are subject to the City's local sales or use tax under the provisions of Part 1.5 of Division 2 of the California Revenue and Taxation Code and Chapter 3.24 of the Sacramento City Code. The lowest responsible bidder shall be determined after the amount of local sales or use tax that would be received by the City is deducted from such bids. The current rate at which such local sales or use tax is received by the City is one percent (1%). Therefore, in evaluating bids to determine the lowest responsible bidder, bids that are subject to this tax at the time of bid opening shall have an amount equal to one percent (1%) of the taxable total deducted from the bids. This deduction shall be in addition to the application of any bid price preferences or other deductions authorized by the City Code. Such deductions shall be made for bid evaluation purposes only. Contract awards shall be made at the actual bid amount.

In order to identify those bids that are subject to the City's local sales or use tax, all bidders shall respond to the following:

Does the bidder have fixed offices or locally taxable distribution points within the boundaries of the City of Sacramento?  Yes; or  No

If the answer to Question above is "Yes":

a) Provide the address of the bidder's fixed offices or locally taxable distribution point(s):

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

Specify: fixed office location or distribution point(s): \_\_\_\_\_

b) Provide the bidder's current, valid City of Sacramento Business Operations Tax Certificate Number: \_\_\_\_\_

**3. DELIVERY GUARANTEE**

Contractor guarantees delivery within 45 days after receipt of order (ARO).  
*POTENTIAL SHIP IN 2-3 WEEKS FROM NEW JERSEY*

**4. PAYMENT DISCOUNT**

Will you offer a prompt payment discount? Yes  or No  (Net 30 days)

If Yes, the Payment Discount is \_\_\_\_\_% for payment within \_\_\_\_\_ calendar days, which will be computed from the date delivery is made and is accepted by the City, or the date a proper invoice is received, whichever is later.

PAYMENT DISCOUNTS SHALL BE CONSIDERED IN AWARDING THE CONTRACT AS SET FORTH IN THE "BID INSTRUCTIONS AND REQUIREMENTS", PARAGRAPH 11 (ENTITLED "PAYMENT DISCOUNTS").

**5. ELECTRONIC FUNDS TRANSFER (EFT) (informational only):**

Do you have the ability to accept electronic payments (EFT)? Yes  or No

If Yes, what percentage discount would you offer the City to be paid through EFT? \_\_\_\_\_%

**6. CITY OF SACRAMENTO BOYCOTT OF ARIZONA-HEADQUARTED BUSINESSES:**

Pursuant to the provisions of Resolution No. 2010-346, the City may determine that a bid from a business or entity that is headquartered in Arizona is nonresponsive and the City may reject the bid on that basis.

Bidders that are headquartered in the United States shall certify in the space below the state where the bidder is headquartered:

CA  
State Where Bidder is Headquartered

SECTION III – BIDDER RESPONSE DOCUMENTS

**B. ITEMS THAT MUST BE SUBMITTED BY SUCCESSFUL  
BIDDER PRIOR TO START OF CONTRACT**

The following documents are required to be completed and submitted by the successful bidder prior to the award of contract of the contract:

**1. CERTIFICATE OF INSURANCE**

Successful bidders are REQUIRED to submit the necessary Certificate(s) of Insurance as called for in the General Conditions prior to award of the contract.

**2. BUSINESS OPERATIONS TAX CERTIFICATE**

Chapter 3.08 of the Sacramento City Code requires that anyone conducting business in the City of Sacramento obtain a **Business Operations Tax Certificate** and pay the applicable tax if necessary. Successful bidders will be REQUIRED to show compliance with this requirement prior to award of the contract.

To obtain information about the Business Operations Tax Certificate, contact the City of Sacramento, Revenue Division, 915 I Street, Room 1214, Sacramento, CA 95814, or telephone (916) 808-8500.

SECTION III – BIDDER RESPONSE DOCUMENTS

**C. DECLARATION OF COMPLIANCE**  
**Equal Benefits Ordinance**

Name of Contractor: \_\_\_\_\_ **Clyde Equipment Co., Inc.** \_\_\_\_\_  
3470 Mt. Diablo Blvd., #A120 \_\_\_\_\_  
Address: \_\_\_\_\_ **Lafayette, CA 94549** \_\_\_\_\_

The above-named Contractor ("Contractor") hereby declares and agrees as follows:

1. Contractor has read and understands the Requirements of the Non-Discrimination In Employee Benefits Code (the "Requirements") attached hereto as Exhibit F.
2. As a condition of receiving this Contract, Contractor agrees to fully comply with the Requirements, as well as any additional requirements that may be specified in the City of Sacramento's Non-Discrimination In Employee Benefits Code codified at Chapter 3.54 of the Sacramento City Code (the "Ordinance").
3. Contractor understands, to the extent that such benefits are not preempted or prohibited by federal or state law, employee benefits covered by the Ordinance are any of the following:
  - a. Bereavement Leave
  - b. Disability, life, and other types of insurance
  - c. Family medical leave
  - d. Health benefits
  - e. Membership or membership discounts
  - f. Moving expenses
  - g. Pension and retirement benefits
  - h. Vacation
  - i. Travel benefits
  - j. Any other benefit offered to employees

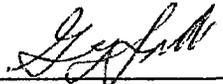
Contractor agrees that if Contractor offers any of the above-listed employee benefits, Contractor will offer those benefits, without discrimination between employees with spouses and employees with domestic partners, and without discrimination between the spouses and domestic partners of such employees.

4. Contractor understands that Contractor will not be considered to be discriminating in the provision or application of employee benefits under the following conditions or circumstances:
  - a. If the actual cost of providing a benefit to a domestic partner or spouse exceeds the cost of providing the same benefit to a spouse or domestic partner of an employee, Contractor will not be required to provide the benefit, nor shall it be deemed discriminatory, if Contractor requires the employee to pay the monetary difference in order to provide the benefit to the domestic partner or to the spouse.
  - b. If Contractor is unable to provide a certain benefit, despite taking reasonable measures to do so, if Contractor provides the employee with a cash equivalent Contractor will not be deemed to be discriminating in the application of that benefit.
  - c. If Contractor provides employee benefits neither to employee's spouses nor to employee's domestic partners.
  - d. If Contractor provides employee benefits to employees on a basis unrelated to marital or domestic partner status.
  - e. If Contractor submits written evidence of making reasonable efforts to end discrimination in employee benefits by implementing policies that will be enacted before the first effective date after the first open enrollment process following the date this Contract is executed by the City of Sacramento ("City"). Contractor understands that any delay in the implementation of such policies may not exceed one (1)

year from the date this Contract is executed by the City, and applies only to those employee benefits for which an open enrollment process is applicable.

- f. Until administrative steps can be taken to incorporate nondiscrimination in employee benefits. The time allotted for these administrative steps will apply only to those employee benefits for which administrative steps are necessary and may not exceed three (3) months from the date this Contract is executed by the City.
  - g. Until the expiration of a current collective bargaining agreement(s) if employee benefits are governed by such collective bargaining agreement(s).
  - h. Contractor takes all reasonable measures to end discrimination in employee benefits by either requesting that the union(s) involved agree to reopen the agreement(s) in order for Contractor to take whatever steps are necessary to end discrimination in employee benefits or by ending discrimination in employee benefits without reopening the collective bargaining agreement(s).
  - i. In the event Contractor cannot end discrimination in employee benefits despite taking all reasonable measures to do so, Contractor provides a cash equivalent to eligible employees for whom employee benefits, are not available. Unless otherwise authorized in writing by the City Manager, Contractor understands this cash equivalent must begin at the time the union(s) refuse to allow the collective bargaining agreement(s) to be reopened or not longer than three (3) months after the date this Contract is executed by the City.
5. Contractor understands that failure to comply with the provisions of Section 4(a) through 4(i), above, will subject Contractor to possible suspension and/or termination of this Contract for cause; repayment of any or all of the Contract amount disbursed by the City; debarment for future contracts until all penalties and restitution have been paid in full and/or for up to two (2) years; and/or the imposition of a penalty, payable to the City, in the sum of \$50.00 for each employee, for each calendar day during which the employee was discriminated against in violation of the provisions of the Ordinance.
  6. Contractor understands and agrees to provide notice to each current employee and, within ten (10) days of hire, to each new employee, of their rights under the Ordinance. Contractor further agrees to maintain a copy of each such letter provided, in an appropriate file for inspection by authorized representatives of the City. Contractor also agrees to prominently display a poster informing each employee of these rights.
  7. Contractor understands that Contractor has the right to request a waiver of, or exemption from, the provisions of the Ordinance by submitting a written request to the City's Procurement Services Division prior to Contract award, which request shall identify the provision(s) of the Ordinance authorizing such waiver or exemption and the factual basis for such waiver or exemption. The City shall determine in its sole discretion whether to approve any such request.
  8. Contractor agrees to defend, indemnify and hold harmless, the City, its officers and employees, against any claims, actions, damages, costs (including reasonable attorney fees), or other liabilities of any kind arising from any violation of the Requirements or of the Ordinance by Contractor.

The undersigned declares under penalty of perjury under the laws of the State of California that the foregoing is true and correct, and that he or she is authorized to bind the Contractor to the provisions of this Declaration.

  
 Signature of Authorized Representative

2/15/11  
 Date

GABRIEL SCHAMALE  
 Print Name

SR. SALES REPRESENTATIVE  
 Title



CITY OF SACRAMENTO

No 1007447

REVENUE DIVISION
BUSINESS OPERATIONS TAX APPLICATION

BUSINESS NAME: Clude Equipment Co. Inc.
BUSINESS DESCRIPTION: HVAC manufacturer representatives
BUSINESS ADDRESS: 3470 Mt. Diablo Blvd. Suite A120
Lafayette CA 94549
STARTING DATE: 3/2/11
Phone Number: (916) 624-1897

Business Zoned: [X] Commercial or [ ] Residential Home Occupation Permit # (Check one)

COMPLETE THIS SECTION IF MAILING INFORMATION IS DIFFERENT THAN ABOVE

MAILING NAME: Same
ATTENTION: Same
ADDRESS: Same
Street No., Street Name, City, State, Zip Code

PRIMARY OWNER/ CORPORATION: Spoerd Glenn H
Last, First, MI, Home / Business Ph. No. 925 299-9180

HOME / CORPORATE ADDRESS: 3470 Mt. Diablo Blvd Suite A120
Street No., Street Name, City, State, Zip Code

OWNER NAME #2 SHAREHOLDER: N/A
OWNER NAME #3 SHAREHOLDER: N/A
CHECK ONE: [X] CORPORATION

FEDERAL EMPLOYER'S I.D. NO. 94-151-64-31
SOCIAL SECURITY NO. 116-50-9372
STATE EMPLOYER'S I.D. NO.
SALES & USE TAX PERMIT NO. SR CHB 21147930
901 CODE 8999001 CLASS 401 BIA - CODE

COMPLETE INFORMATION FOR ITEM(S) CHECKED:
1. GROSS RECEIPTS - Estimate for first year: \$ 1,577,000.00
2. GROSS PAYROLL - Estimate for first year: \$ 470,000.00
3. NUMBER OF YEARS LICENSED BY THE STATE OF CALIFORNIA: 58
4. NUMBER OF PROFESSIONAL EMPLOYEES (LICENSED BY THE STATE): 0
5. NUMBER OF RENTAL UNITS: 0

I declare under penalty of perjury that to my knowledge all information contained on this application is true and correct. This tax certificate is for revenue purposes only and does not imply conformance with applicable city codes and ordinances. You are advised to check your proposed business location and structure with the City Planning Division for compliance with zoning codes and the Building Inspections Division for compliance with building codes.

SIGNATURE: [Signature] DATE: 02/25/2011

TEMPORARY CERTIFICATE Not Valid More Than 45 Days from Validation Date. Your Business Tax Certificate will be sent to you in approximately two weeks. This Certificate Must Be Renewed Annually. VOID CITY OF SACRAMENTO VALIDATED MAY 2 2011. Tax \$ 63.03, BIA \$, TRN/DUP \$, PEN \$, TOTAL \$ 63.03, By [Signature]

Mail To: City of Sacramento \*915 I Street Room 1214\* Sacramento CA 95814 (916) 808-8500

1546338-905-03/02/11-Business Tax 63.03

<b>ACORD CERTIFICATE OF LIABILITY INSURANCE</b>		DATE (MM/DD/YYYY) 2/28/2011
PRODUCER Wells Fargo Insurance Services USA, Inc. P.O. Box 1106 Grass Valley, CA 95945-4701	(530) 273-7213	THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW.
INSURED Clyde Equipment Co., Inc. 3470 Mount Diablo Blvd Lafayette, CA 94549-	INSURERS AFFORDING COVERAGE	NAIC #
	INSURER A: Financial Pacific Insurance Company	
	INSURER B: Oak River Insurance Company	
	INSURER C:	
	INSURER D:	
	INSURER E:	

**COVERAGES:**  
THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. AGGREGATE LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR ACQ/LTR	INSR/D	TYPE OF INSURANCE	POLICY NUMBER	POLICY EFFECTIVE DATE (MM/DD/YYYY)	POLICY EXPIRATION DATE (MM/DD/YYYY)	LIMITS
A	X	<input checked="" type="checkbox"/> GENERAL LIABILITY <input checked="" type="checkbox"/> COMMERCIAL GENERAL LIABILITY <input type="checkbox"/> CLAIMS MADE <input checked="" type="checkbox"/> OCCUR  GEN'L AGGREGATE LIMIT APPLIES PER: <input checked="" type="checkbox"/> POLICY <input type="checkbox"/> PRO-JECT <input type="checkbox"/> LOC	1666571	12/9/2010	12/9/2011	EACH OCCURRENCE \$ 1,000,000 DAMAGE TO RENTED PREMISES (Ea occurrence) \$ 100,000 MED EXP (Any one person) \$ 5,000 PERSONAL & ADV INJURY \$ 1,000,000 GENERAL AGGREGATE \$ 2,000,000 PRODUCTS - COMPROP AGG \$ 2,000,000
A	X	AUTOMOBILE LIABILITY <input type="checkbox"/> ANY AUTO <input type="checkbox"/> ALL OWNED AUTOS <input type="checkbox"/> SCHEDULED AUTOS <input checked="" type="checkbox"/> HIRED AUTOS <input checked="" type="checkbox"/> NON-OWNED AUTOS	1666571	12/9/2010	12/9/2011	COMBINED SINGLE LIMIT (Ea accident) \$ 1,000,000 BODILY INJURY (Per person) \$ BODILY INJURY (Per accident) \$ PROPERTY DAMAGE (Per accident) \$
		GARAGE LIABILITY <input type="checkbox"/> ANY AUTO				AUTO ONLY - EA ACCIDENT \$ OTHER THAN AUTO ONLY: EA ACC \$ AGG \$
A		EXCESS/UMBRELLA LIABILITY <input type="checkbox"/> OCCUR <input type="checkbox"/> CLAIMS MADE  DEDUCTIBLE \$ <input checked="" type="checkbox"/> RETENTION \$ N/A	9219091	12/9/2010	12/9/2011	EACH OCCURRENCE \$ 1,000,000 AGGREGATE \$ 1,000,000 \$ \$
B		WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? If yes, describe under SPECIAL PROVISIONS below OTHER	2200002176101	12/1/2010	12/1/2011	<input checked="" type="checkbox"/> WC STATU-TORY LIMITS <input type="checkbox"/> OTH-ER E.L. EACH ACCIDENT \$ 1,000,000 E.L. DISEASE - EA EMPLOYEE \$ 1,000,000 E.L. DISEASE - POLICY LIMIT \$ 1,000,000
A		Business Personal Property	1666571	12/9/2010	12/9/2011	deductible \$1000 \$15000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES / EXCLUSIONS ADDED BY ENDORSEMENT / SPECIAL PROVISIONS:  
 City of Sacramento, its officials, employees & volunteers are listed as additional insured with regards to the General Liability coverage per written contract.

**CERTIFICATE HOLDER**

City Of Sacramento  
 Department of Finance  
 5730 24th Street Bldg. 1  
 Sacramento, CA 95814-

**CANCELLATION**

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, THE ISSUING INSURER WILL ENDEAVOR TO MAIL 30 DAYS WRITTEN NOTICE TO THE CERTIFICATE HOLDER NAMED TO THE LEFT, BUT FAILURE TO DO SO SHALL IMPOSE NO OBLIGATION OR LIABILITY OF ANY KIND UPON THE INSURER, ITS AGENTS OR REPRESENTATIVES.

AUTHORIZED REPRESENTATIVE

*Debra L. Coe*

POLICY NUMBER: 1866571

COMMERCIAL GENERAL LIABILITY  
CG 20 10 1093 Modified

**THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT  
CAREFULLY.**

**ADDITIONAL INSURED OWNERS, LESSEES OR  
CONTRACTORS (FORM B)**

This endorsement modifies insurance provided under the following:

COMMERCIAL GENERAL LIABILITY COVERAGE PART

**SCHEDULE**

**Name of Person or Organization:**

City Of Sacramento  
Department of Finance  
5730 24<sup>th</sup> Street Bldg 1  
Sacramento, Ca 95814

(If no entry appears above, information required to complete this endorsement will be shown in the Declarations as applicable to this endorsement.)

WHO IS AN INSURED (Section II) is amended to include as an insured the person or organization shown in the Schedule, but only to the extent that the person or organization is held liable for your acts or omissions for your ongoing operations performed for that insured.

**This endorsement applies to the following work:**

work performed as described in the policy

**Description of Job:**

Bid# B1113101006

**Location of Job:**

**AI only Effective from:**

Effective Date: 12/09/2010

Expiration Date: 12/09/2011



## MODEL BMK-2.0LN GWB

TECHNICAL DATA

### AERCO LOW NOx Benchmark Gas Fired Hot Water Boiler System

The AERCO Benchmark 2.0 Low NOx (BMK 2.0LN) Water Boiler is designed for condensing application in any closed loop hydronic system. It delivers 20:1 burner turndown to match energy input directly to fluctuating system loads to yield the highest possible seasonal efficiencies. As illustrated below, the unit's operating efficiency actually increases as the load decreases. It can achieve 99+% efficiency when supplied with 60°F return water while firing at minimum input.

To minimize emissions, the BMK 2.0LN is fitted with a low NOx burner whose emissions will consistently measure <30 ppm of NOx corrected to 3% excess oxygen at all firing rates. Certified by the SCAQMD and TCEQ in its class, the fully modulating burner also maintains AERCO standards for energy efficiency, longevity, reliability and construction quality.

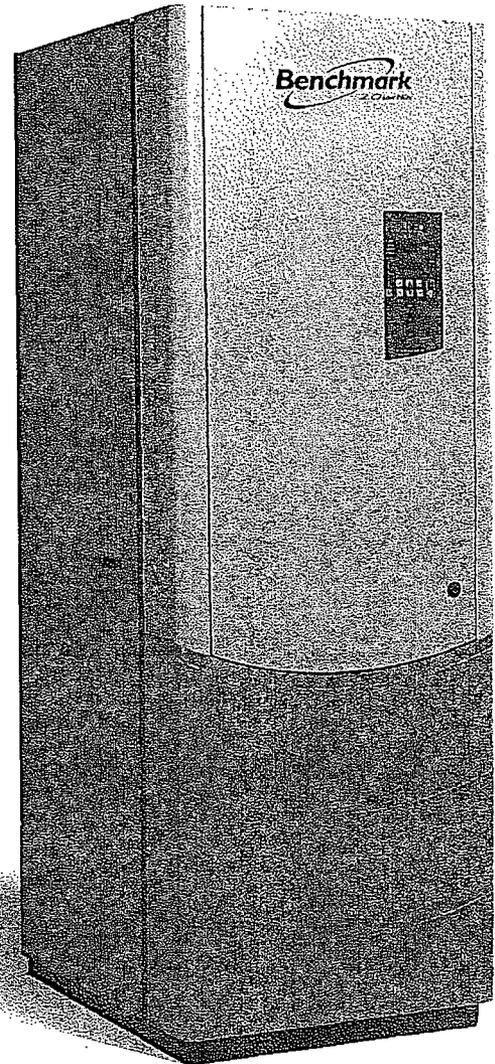
The BMK 2.0LN can be used singly or in modular arrangements and offers selectable modes of operation. In addition to controlling the boiler according to a constant setpoint, indoor/outdoor reset schedule or 4-20mA signal, one or more can be integrated via Modbus communications protocol to AERCO's multiple boiler management system (BMS II) or a facility-wide Energy Management or Building Automation System.

#### Thermal Efficiency

Comprehensive tests are being conducted to confirm the unit's efficiency over its entire 100,000 to 2,000,000 BTU/hr. operating range for a variety of operating conditions. The initial boundary tests indicate that efficiency up to 99.3% can be achieved when the unit operates at its lowest firing rate (5% input) with 60°F inlet water temperature. Even at full fire (100% input) with 160°F inlet water temperature, the BMK2.0LN delivers 85.3% efficiency.

#### BMK 2.0 Low NOx Features

- Natural Gas
- 20:1 Turndown Ratio
- NOx Emissions <30ppm at All Firing Rates
- Direct Vent or Conventional Capabilities
- AL29-4C Vent Materials Required per UL 1738
- Quiet Operation Throughout Firing Range
- Internal Low Water Cutoff (Manual Reset)
- Compact Footprint (79"H x 28"W x 36"D)
- Precise Temperature Control  $\pm 2^{\circ}\text{F}$
- Sealed Combustion Capable
- Ventless Supply Gas Regulator
- UL, CUL, for Alcove Installation on Combustible Flooring



Furnish and install as shown on AERCO International plans and operation and maintenance manuals, with all applicable codes and authorities having local, state and federal jurisdiction, Benchmark Series Boiler Model BMK 2.0 LN. The boiler plant shall consist of \_\_\_ hydronic boiler(s) modules as manufactured by AERCO International, Inc. Each boiler shall be; UL Listed, CSD-1 approved, ASME coded and stamped, and incorporate a gas train designed in accordance with \_\_\_ FM or \_\_\_ IRI. Each boiler shall have an input of 2,000mbh with a gross output of 1,706 to 1,860mbh (dependent upon return water temperature) when fired with \_\_\_ natural gas. The boiler manufacturer *must* publish known part load value efficiencies; the thermal efficiency must increase as the firing rate decreases. Electrical service to each unit shall be 120V/1/60Hz 20 amp service. The boiler control panel shall be proprietary in design and incorporate the functions of temperature control, combustion safeguard control, message annunciation, and fault diagnostic display, on individual field replaceable circuit boards mounted within a single housing. Each boiler shall have a footprint of *no more than* 28" W, 44 ½" L, and 79" H with a UL Listing for zero side wall clearance. The boiler installed weight shall *not exceed* 1450 lbs. dry. The boiler shall have an ASME approved relief valve setting of \_\_\_ psig.

### **CONSTRUCTION**

Boiler modules shall be \_\_\_ natural gas fired, condensing fire tube design with a modulating forced draft power burner and positive pressure vent discharge.

#### **Modulating Air/Fuel Valve and Burner**

The boiler burner shall be capable of a 20 to 1 turndown ratio of the firing rate without loss of combustion efficiency or staging of gas valves. The burner shall produce <30ppm of NOx corrected to 3% excess oxygen. The unit shall be certified by the South Coast Air Quality Management District (SCAQMD) as compliant with Rule 1146.2 for boilers and water heaters < 3MBTUs and the Texas Commission on Environmental Quality (TCEQ) as compliant with Section 117.465 for boilers and water heaters ≤ 2MBTUs. The burner shall be metal fiber mesh covering a stainless steel body, with spark ignition and flame rectification. All burner material exposed to the combustion zone shall be of stainless steel construction. There shall be no moving parts within the burner itself. A modulating air/fuel valve shall meter the air and fuel input. The modulating motor must be linked to both the gas valve body and air valve body with a single linkage. The linkage shall not require any field adjustment. A variable frequency drive (VFD) controlled cast aluminum pre-mix blower shall be utilized to ensure the optimum mixing of air & fuel between the air/fuel valve and the burner.

#### **Pressure Vessel/Heat Exchanger**

The boiler shall be capable of handling return water temperatures down to 40 F without any failure due to thermal shock or fireside condensation. The heat exchanger shall be ASME stamped for a working pressure not less than 160 psig.

The pressure vessel shall have a maximum water volume of 24 gallons. The boiler water pressure drop shall *not exceed* 1.7 psig at 170 gpm. The boiler water connections shall be 4" flanged 150 lb. ANSI rated. The pressure vessel is constructed of SA53 carbon steel, with a 0.25" thick wall and 0.50 in. thick upper head. Inspection openings in the pressure vessel shall be in accordance with ASME Section IV pressure vessel code. The boiler shall be designed so that the thermal efficiency increases as the boiler firing rate decreases.

The heat exchanger shall be constructed of 316L stainless steel fire tubes and tube sheets with a one-pass combustion gas flow design. The fire tubes shall be 5/8" OD with no less than 0.065" wall thickness. The upper and lower stainless steel tubesheet shall be no less than 0.375" thick. The pressure vessel/heat exchanger shall be welded construction. The heat exchanger shall be ASME stamped for a working pressure not less than 160 psig. Access to the tubesheets and heat exchanger is available by burner and exhaust manifold removal. Minimum access opening shall be no less than 10 in. diameter.

**Exhaust Manifold**

The exhaust manifold shall be of corrosion resistant cast aluminum with an 8" diameter flue connection. The exhaust manifold shall have a gravity drain for the elimination of the condensation with collecting reservoir.

**BOILER CONTROLS:**

The boiler control system shall be segregated into three components: "C-More" Control Panel, Power Box, and Input/Output Connection Box. The entire system shall be Underwriters Laboratories Recognized.

The "C-More" control panel shall consist of 6 individual circuit boards utilizing state-of-the-art surface-mount technology, in a single enclosure. These circuit boards shall be defined as follows: display board incorporating LED display to read temperature, and a vacuum fluorescent display module for all message annunciation; CPU board which houses all control functions; electric low water cutoff board with test and manual reset functions; power supply board; ignition /stepper board incorporating flame safeguard control; and connector board. Each board shall be individually field replaceable. The combustion safeguard/flame monitoring system shall utilize spark ignition and a rectification type flame sensor. The control panel hardware shall support both RS-232 and RS-485 remote communications. The controls shall annunciate boiler & sensor status and include extensive self-diagnostic capabilities that incorporate a minimum of 8 separate status messages and 34 separate fault messages.

The "C-More" control panel shall incorporate three self-governing features designed to enhance operation in modes where it receives an external control signal by eliminating nuisance faults due to over-temperature, improper external signal or loss of external signal. These features are called: Setpoint High Limit, Setpoint Low Limit, and Failsafe Mode. Setpoint High Limit allows for a selectable maximum boiler outlet temperature and acts as temperature limiting governor.

It is a PID function that automatically limits firing rate to maintain outlet temperature within a 0 to 10 degree selectable band from the desired maximum boiler outlet temperature. Setpoint Low Limit allows for a selectable minimum operating temperature. Failsafe Mode allows the boiler to switch its mode to operate from an internal setpoint if its external control signal is lost, rather than shut off. This is a selectable mode; hence the control can be set to shut off the unit upon loss of external signal if so desired.

The boiler control system shall incorporate the following additional features for enhanced external system interface: system start temperature feature; pump delay timer; auxiliary start delay timer; auxiliary temperature sensor; mA output feature which allows for simple monitoring of either temperature setpoint, outlet temperature, or fire rate; remote interlock circuit; delayed interlock circuit; and fault relay for simple remote fault alarm.

Each boiler shall utilize an electric single seated combination safety shutoff valve/regulator with proof of closure switch in its gas train and incorporate dual over-temperature protection with manual reset in accordance with ASME Section IV and CSD-1.

### **Temperature Control Modes**

The Benchmark boiler(s) shall operate in the control modes listed below:

- 1. Internal Setpoint
- 2. Indoor/Outdoor Reset
- 3. 4ma to 20ma Temperature Setpoint
- 4. Network Temperature Setpoint
- 5. 4ma to 20ma Direct Drive
- 6. Network Direct Drive
- 7. Boiler Management System II (BMS II)
- 8. Boiler Management System (BMS) with Combination Control System (CCP)

The first six control modes refer to independent boiler settings, while the last two control modes refer to banks of boilers operated as a system by AERCO supplied BMS II or BMS and CCP in a combination system. The AERCO BMS II shall be programmed to operate the entire bank of boilers in either of the first four control modes. The following is a description of each control mode.

**Internal Setpoint:** Boiler shall include integral factory wired operating controls to control all operation and energy input of the boiler. Control of discharge water temperature shall be set through an internal setpoint with an adjustment of 50°F to 190°F. The controller shall have the ability to vary boiler input throughout its full range to maximize the condensing capability of the boiler and without header temperature swings.

The boiler will operate to maintain a constant header temperature outlet to  $\pm 2^\circ\text{F}$ . Unit shall operate with an Inverse Efficiency Curve, with known Part Load Value Efficiencies. Maximum efficiency shall be achieved at minimum firing input. Controls shall be fully field adjustable from 50°F to 190°F in operation. Main Header outlet temperature shall not be more than  $\pm 2^\circ\text{F}$  from setpoint at any point of operation. The boiler shall have LCD display for monitoring of all sensors and interlocks.

**Indoor/Outdoor Reset:** Boiler shall include integral factory wired operating controls to control all operation and energy input of the boiler plant. The microprocessor-based controller shall have the ability to vary boiler input throughout its full range for bump-less transfer of header temperature, and to maximize the condensing capability of the boiler without header temperature swings.

The boiler will operate to vary header temperature setpoint on an inverse ratio in response to outdoor temperature to control discharge temperature  $\pm 2^{\circ}\text{F}$ . Unit shall operate with an Inverse Efficiency Curve, with known Part Load Value Efficiencies. Maximum efficiency shall be achieved at minimum firing input. Reset ratio shall be fully field adjustable from 0.3 to 3.0 in operation. The boiler shall have LCD display for monitoring of all sensors and interlocks.

**4ma to 20ma Temperature Setpoint:** Boiler shall include integral factory wired operating controls to control all operation and energy input of the boiler. The controller shall have the ability to vary boiler input throughout its full range to maximize the condensing capability of the boiler without header temperature swings.

The boiler will operate to vary header temperature setpoint linearly as an externally applied 4m to 20 mA signal is supplied. Unit shall operate with an Inverse Efficiency Curve, with known Part Load Value Efficiencies. Maximum efficiency shall be achieved at minimum firing input. Main Header outlet temperature shall not be more than  $\pm 2^{\circ}\text{F}$  from setpoint at any point of operation. The boiler shall have LCD display for monitoring of all sensors and interlocks.

**Network Temperature Setpoint:** Boiler shall include integral factory wired operating controls to control all operation and energy input of the boiler. The controller shall have the ability to vary boiler input throughout its full range to maximize the condensing capability of the boiler without header temperature swings.

The boiler will operate to vary header temperature setpoint as an external communication utilizing the MODBUS protocol is supplied via the RS-485 port. Unit shall operate with an Inverse Efficiency Curve, with known Part Load Value Efficiencies. Maximum efficiency shall be achieved at minimum firing input. Main Header outlet temperature shall not be more than  $\pm 2^{\circ}\text{F}$  from setpoint at any point of operation. The boiler shall have LCD display for monitoring of all sensors and interlocks.

**4ma to 20ma Direct Drive:** Boiler shall include integral factory wired operating controls to control all operation and energy input of the boiler. The controller shall have the ability to vary boiler input throughout its full range to maximize the condensing capability of the boiler without header temperature swings.

The boiler will operate to vary the boiler firing rate linearly as an externally applied 4ma to 20 ma signal is supplied. Unit shall operate with an Inverse Efficiency Curve, with known Part Load Value Efficiencies. Maximum efficiency shall be achieved at minimum firing input. The boiler shall have LCD display for monitoring of all sensors and interlocks.

**Boiler Management System (BMS) with Combination Control System (CCP):** A combination system consisting of \_\_\_ boilers in BMS mode and \_\_\_ boilers in combination system (CCP) mode (maximum of four units) shall be supplied to accommodate the requirements for both space heating and domestic hot water.

The Boiler Manufacturer shall supply as part of the boiler package a completely integrated AERCO Boiler Management System Model 168 Programmer to control all operation and energy input of the multiple boiler heating plant (with all of the previously described features as the BMS II, except Ramp Up/Ramp Down control algorithm, and the BMS Model 168 shall have an LCD display) and a Combination Control Panel (CCP). The CCP shall work in conjunction with the BMS to control the firing of the combination boilers, associated accessories, the motorized control valve, and circulating pump for domestic water production. The BMS mode boilers shall be dedicated to space heating; the Combination mode boilers shall provide indirect domestic water production. The Combination boilers shall utilize pulse width modulation to supplement the BMS mode (space heating) boilers when the space heating load exceeds the total BMS mode boiler capacity.

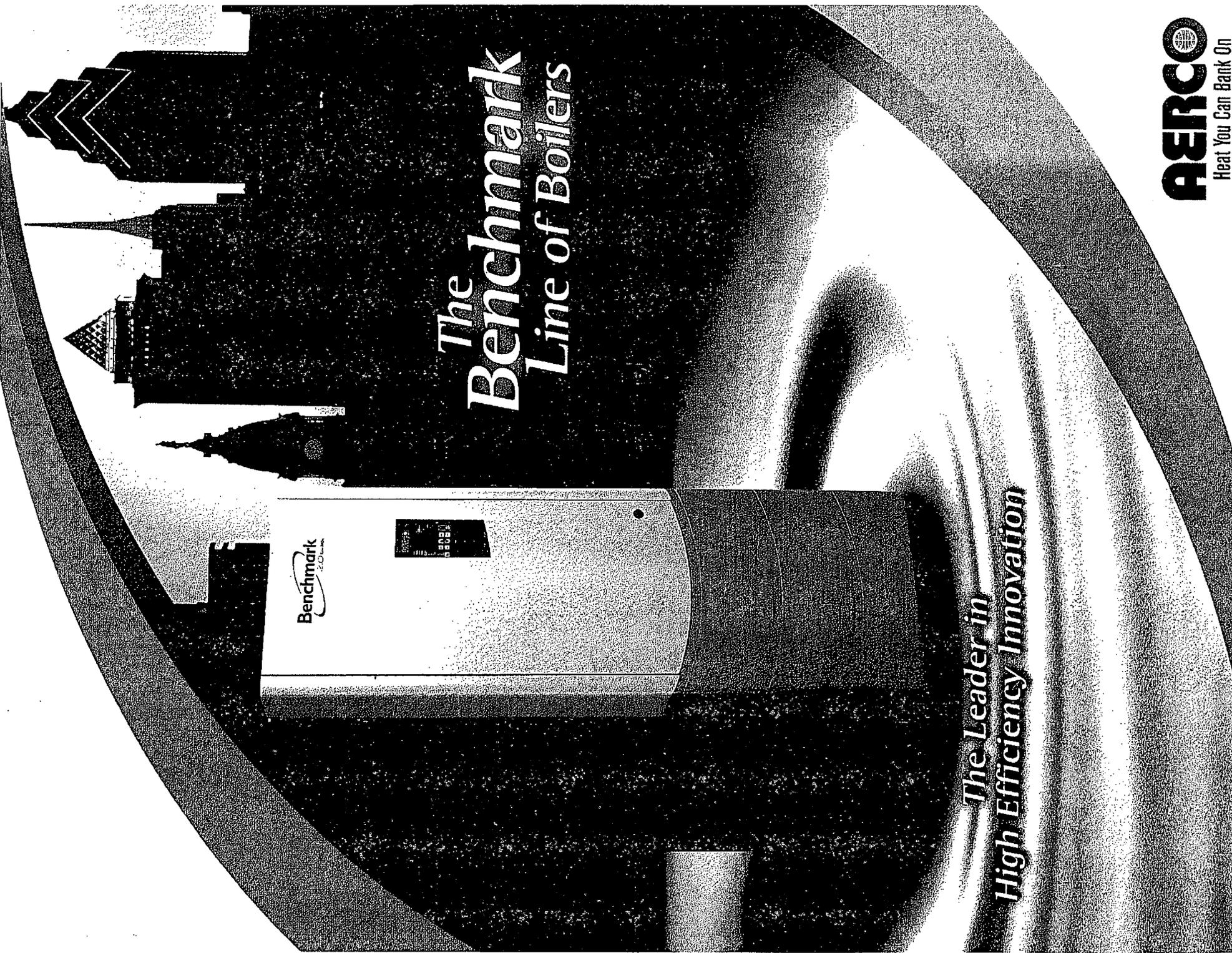
#### **CONTROLS INTEROPERABILITY**

The "C-More" control panel and the AERCO BMS II shall utilize the MODBUS open protocol to interface with third party Building Automation Systems (BAS).

Controls interface with BACnet, Lonworks, and N2 shall utilize an \_\_\_ optional AERCO Communications Gateway to act as a MODBUS interface/translator between the BAS and either the RS-485 port of the "C-More" boiler control panel or the RS-232 port of the AERCO BMS II. The AERCO Communications Gateway shall be comprised of a microprocessor based control utilizing the MODBUS protocol to communicate with the Boilers via the RS-485. Non-volatile backup of all point mappings and programs shall be internally provided as standard. Connection between Gateway and individual boilers or to the AERCO BMS II shall be "daisy chain" with shielded, twisted-pair, low voltage wiring for ease of installation.

#### **INSTALLATION**

All aspects of installation of Boiler Plant shall be in strict accordance with manufacturer's instructions. The vent system *must conform to* all manufacturer's recommendations and shall utilize UL listed stainless steel AL-29-4C Positive Pressure. The vent must be sized in accordance with AERCO's recommendations. Boiler plant piping shall be field constructed of materials as specified. Each boiler shall have individually isolating shutoff valves for service and maintenance. Each boiler shall require a minimum natural gas pressure of \_\_\_ 4.0" W.C. (FM gas train) \_\_\_ 5.0" W.C. (IRI gas train) at 2,000 scfh (full load rated capacity).



Benchmark  
2.0

# The Benchmark Line of Boilers

*The Leader in  
High Efficiency Innovation*

**AERCO**  
Heat You Can Bank On



# MODEL BMK-1.5LN GWB

TECHNICAL DATA

## AERCO LOW NOx Benchmark Gas Fired Hot Water Boiler System

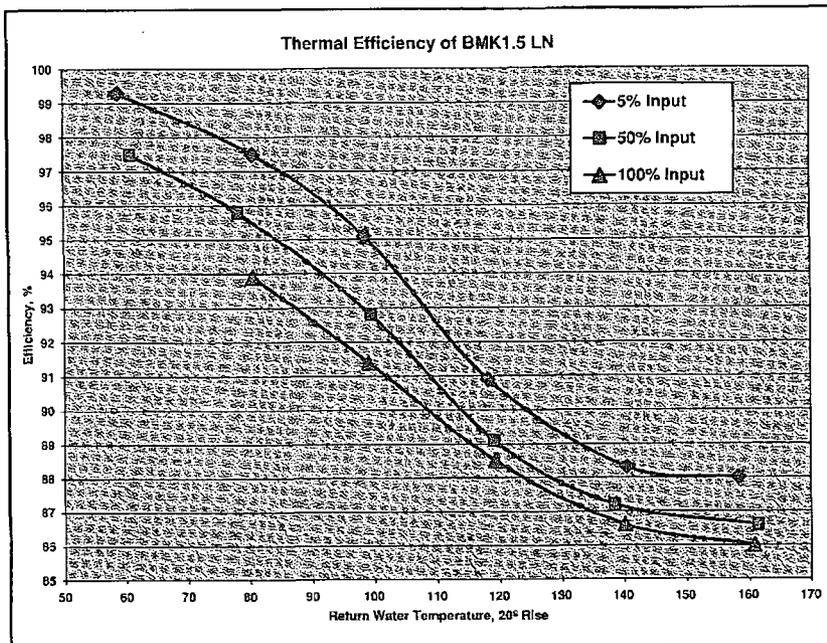
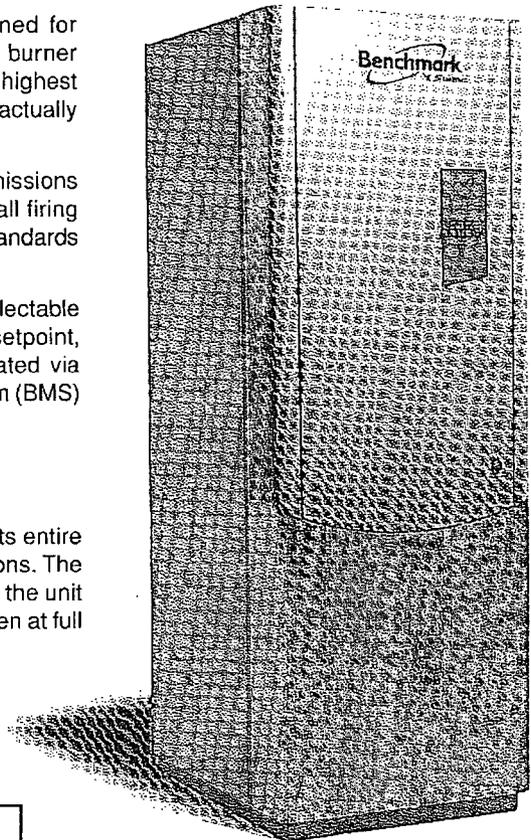
The AERCO Benchmark 1.5 Low NOx (BMK 1.5LN) Water Boiler is designed for condensing application in any closed loop hydronic system. It delivers 20:1 burner turndown to match energy input directly to fluctuating system loads to yield the highest possible seasonal efficiencies. As illustrated below, the unit's operating efficiency actually increases as the load decreases.

To minimize emissions, the BMK 1.5LN is fitted with a low NOx burner whose emissions will consistently measure <16 ppm of NOx corrected to 3% excess oxygen at all firing rates. Certified by SCAQMD, the fully modulating burner also maintains AERCO standards for energy efficiency, longevity, reliability, and construction quality.

The BMK 1.5LN can be used singly or in modular arrangements and offers selectable modes of operation. In addition to controlling the boiler according to a constant setpoint, indoor/outdoor reset schedule or 4-20mA signal, one or more can be integrated via Modbus communications protocol to AERCO's multiple boiler management system (BMS) or a facility-wide Energy Management or Building Automation System.

### Operating Efficiency

Comprehensive tests are being conducted to confirm the unit's efficiency over its entire 75,000 to 1,500,000 BTU/hr. operating range for a variety of operating conditions. The initial boundary tests indicate that efficiency up to 99.3% can be achieved when the unit operates at its lowest firing rate (5% input) with 60°F inlet water temperature. Even at full fire (100% input), the BMK1.5 LN delivers exceptional efficiency.



### BMK 1.5LN Features

- Natural Gas
- 20:1 Turndown Ratio
- NOx Emissions <16 ppm at All Firing Rates
- Direct Vent or Conventional Capabilities
- AL29-4C Vent Materials Required per UL1738
- Quiet Operation Throughout Firing Range
- Internal Low Water Cutoff (Manual Reset)
- Compact Footprint (79"H x 28"W x 36"D)
- Precise Temperature Control ±2°F
- Sealed Combustion Capable
- Ventless Supply Gas Regulator
- UL, CUL, for Alcove Installation on Combustible Flooring
- (Optional) Dual-Fuel – Natural Gas with Propane Back-Up



Furnish and install as shown on AERCO International plans and operation and maintenance manuals, with all applicable codes and authorities having local, state and federal jurisdiction, Benchmark Series Boiler Model BMK 1.5 LN. The boiler plant shall consist of \_\_\_\_ hydronic boiler(s) modules as manufactured by AERCO International, Inc. Each boiler shall be; UL Listed, CSD-1 approved, ASME coded and stamped, and incorporate a gas train designed in accordance with \_\_\_\_ FM or \_\_\_\_ IRI. Each boiler shall have an input of 1,500mbh with a gross output of 1,290 to 1,408 mbh (dependent upon return water temperature) when fired with natural gas. The boiler manufacturer *must* publish known part load value efficiencies; the thermal efficiency must increase as the firing rate decreases. Electrical service to each unit shall be 120V/1/60Hz 20 amp service. The boiler control panel shall be proprietary in design and incorporate the functions of temperature control, combustion safeguard control, message annunciation, and fault diagnostic display, on individual field replaceable circuit boards mounted within a single housing. Each boiler shall have a footprint of *no more than* 28" W, 44.5 and 79" H with a UL Listing for zero side wall clearance. The boiler installed weight shall *not exceed* 1533 lbs. dry. The boiler shall have an ASME approved relief valve setting of \_\_\_\_ psig.

## CONSTRUCTION

Boiler modules shall be natural gas fired, condensing fire tube design with a modulating forced draft power burner and positive pressure vent discharge.

### Modulating Air/Fuel Valve and Burner

The boiler burner shall be capable of a 20 to 1 turndown ratio of the firing rate without loss of combustion efficiency or staging of gas valves. The burner shall produce <16ppm of NOx corrected to 3% excess oxygen. The unit shall be certified by the South Coast Air Quality Management District (SCAQMD) as compliant with Rule 1146.2 for boilers and water heaters < 3MBTUs and the Texas Commission on Environmental Quality (TCEQ) as compliant with Section 117.465 for boilers and water heaters ≤ 2MBTUs. The burner shall be metal fiber mesh covering a stainless steel body, with spark ignition and flame rectification. All burner material exposed to the combustion zone shall be of stainless steel construction. There shall be no moving parts within the burner itself. A modulating air/fuel valve shall meter the air and natural gas input. The modulating motor must be linked to both the gas valve body and air valve body with a single linkage. The linkage shall not require any field adjustment. A variable frequency drive (VFD) controlled cast aluminum pre-mix blower shall be utilized to ensure the optimum mixing of air & fuel between the air/fuel valve and the burner.

### Pressure Vessel/Heat Exchanger

The boiler shall be capable of handling return water temperatures down to 40 F without any failure due to thermal shock or fireside condensation. The heat exchangers shall be ASME stamped for a working pressure not less than 160 psig. The pressure vessel shall have a maximum water volume of 27 gallons. The boiler water pressure drop shall *not exceed* 4.9 psig at 130 gpm. The boiler water connections shall be 3" flanged 150 lb. ANSI rated. The pressure vessels are constructed of SA53 carbon steel, with a 0.25" thick wall and 0.50 in. thick upper head. Inspection openings in the pressure vessels shall be in accordance with ASME Section IV pressure vessel code. The boiler shall be designed so that the thermal efficiency increases as the boiler firing rate decreases. The heat exchangers shall be constructed of 316L stainless steel fire tubes and tube sheets with a one-pass combustion gas flow design. The fire tubes shall be 5/8" OD with no less than 0.065" wall thickness.

The upper and lower stainless steel tubesheets shall be no less than 0.313" thick. The pressure vessel/heat exchangers shall be welded construction. The heat exchangers shall be ASME stamped for a working pressure not less than 160 psig. Access to the tubesheets and heat exchangers are available by burner and exhaust manifold removal. Minimum access opening shall be no less than 8 in. diameter.

**Exhaust Manifold**

The exhaust manifold shall be of corrosion resistant cast aluminum with a 6" diameter flue connection. The exhaust manifold shall have a gravity drain for the elimination of the condensation with collecting reservoir.

**BOILER CONTROLS:**

The boiler control system shall be segregated into three components: "C-More" Control Panel, Power Box, and Input/Output Connection Box. The entire system shall be Underwriters Laboratories Recognized.

The "C-More" control panel shall consist of 6 individual circuit boards utilizing state-of-the-art surface-mount technology, in a single enclosure. These circuit boards shall be defined as follows: display board incorporating LED display to read temperature, and a vacuum fluorescent display module for all message annunciation; CPU board which houses all control functions; electric low water cutoff board with test and manual reset functions; power supply board; ignition /stepper board incorporating flame safeguard control; and connector board. Each board shall be individually field replaceable. The combustion safeguard/flame monitoring system shall utilize spark ignition and a rectification type flame sensor. The control panel hardware shall support both RS-232 and RS-485 remote communications. The controls shall annunciate boiler & sensor status and include extensive self-diagnostic capabilities that incorporate a minimum of 8 separate status messages and 34 separate fault messages.

The "C-More" control panel shall incorporate three self-governing features designed to enhance operation in modes where it receives an external control signal by eliminating nuisance faults due to over-temperature, improper external signal or loss of external signal. These features are called: Setpoint High Limit, Setpoint Low Limit, and Failsafe Mode. Setpoint High Limit allows for a selectable maximum boiler outlet temperature and acts as temperature limiting governor.

It is a PID function that automatically limits firing rate to maintain outlet temperature within a 0 to 10 degree selectable band from the desired maximum boiler outlet temperature. Setpoint Low Limit allows for a selectable minimum operating temperature. Failsafe Mode allows the boiler to switch its mode to operate from an internal setpoint if its external control signal is lost, rather than shut off. This is a selectable mode; hence the control can be set to shut off the unit upon loss of external signal if so desired.

The boiler control system shall incorporate the following additional features for enhanced external system interface: system start temperature feature; pump delay timer; auxiliary start delay timer; auxiliary temperature sensor; mA output feature which allows for simple monitoring of either temperature setpoint, outlet temperature, or fire rate; remote interlock circuit; delayed interlock circuit; and fault relay for simple remote fault alarm.

Each boiler shall utilize an electric single seated combination safety shutoff valve/regulator with proof of closure switch in its gas train and incorporate dual over-temperature protection with manual reset in accordance with ASME Section IV and CSD-1.

**Temperature Control Modes**

The Benchmark boiler(s) shall operate in the control modes listed below:

- 1. Internal Setpoint
- 2. Indoor/Outdoor Reset
- 3. 4ma to 20ma Temperature Setpoint
- 4. Network Temperature Setpoint
- 5. 4ma to 20ma Direct Drive
- 6. Network Direct Drive
- 7. Boiler Management System II (BMS II)
- 8. Boiler Management System (BMS) with Combination Control System (CCP)

The first six control modes refer to independent boiler settings, while the last two control modes refer to banks of boilers operated as a system by AERCO supplied BMS II or BMS and CCP in a combination system. The AERCO BMS II shall be programmed to operate the entire bank of boilers in either of the first four control modes. The following is a description of each control mode.

**Internal Setpoint:** Boiler shall include integral factory wired operating controls to control all operation and energy input of the boiler. Control of discharge water temperature shall be set through an internal setpoint with an adjustment of 50°F to 190°F. The controller shall have the ability to vary boiler input throughout its full range to maximize the condensing capability of the boiler and without header temperature swings.

The boiler will operate to maintain a constant header temperature outlet to  $\pm 2^\circ\text{F}$ . Unit shall operate with an Inverse Efficiency Curve, with known Part Load Value Efficiencies. Maximum efficiency shall be achieved at minimum firing input. Controls shall be fully field adjustable from 50°F to 190°F in operation. Main Header outlet temperature shall not be more than  $\pm 2^\circ\text{F}$  from setpoint at any point of operation. The boiler shall have LCD display for monitoring of all sensors and interlocks.

**Indoor/Outdoor Reset:** Boiler shall include integral factory wired operating controls to control all operation and energy input of the boiler plant. The microprocessor-based controller shall have the ability to vary boiler input throughout its full range for bump-less transfer of header temperature, and to maximize the condensing capability of the boiler without header temperature swings.

The boiler will operate to vary header temperature setpoint on an inverse ratio in response to outdoor temperature to control discharge temperature  $\pm 2^{\circ}\text{F}$ . Unit shall operate with an Inverse Efficiency Curve, with known Part Load Value Efficiencies. Maximum efficiency shall be achieved at minimum firing input. Reset ratio shall be fully field adjustable from 0.3 to 3.0 in operation. The boiler shall have LCD display for monitoring of all sensors and interlocks.

**4ma to 20ma Temperature Setpoint:** Boiler shall include integral factory wired operating controls to control all operation and energy input of the boiler. The controller shall have the ability to vary boiler input throughout its full range to maximize the condensing capability of the boiler without header temperature swings.

The boiler will operate to vary header temperature setpoint linearly as an externally applied 4m to 20 mA signal is supplied. Unit shall operate with an Inverse Efficiency Curve, with known Part Load Value Efficiencies. Maximum efficiency shall be achieved at minimum firing input. Main Header outlet temperature shall not be more than  $\pm 2^{\circ}\text{F}$  from setpoint at any point of operation. The boiler shall have LCD display for monitoring of all sensors and interlocks.

**Network Temperature Setpoint:** Boiler shall include integral factory wired operating controls to control all operation and energy input of the boiler. The controller shall have the ability to vary boiler input throughout its full range to maximize the condensing capability of the boiler without header temperature swings.

The boiler will operate to vary header temperature setpoint as an external communication utilizing the MODBUS protocol is supplied via the RS-485 port. Unit shall operate with an Inverse Efficiency Curve, with known Part Load Value Efficiencies. Maximum efficiency shall be achieved at minimum firing input. Main Header outlet temperature shall not be more than  $\pm 2^{\circ}\text{F}$  from setpoint at any point of operation. The boiler shall have LCD display for monitoring of all sensors and interlocks.

**4ma to 20ma Direct Drive:** Boiler shall include integral factory wired operating controls to control all operation and energy input of the boiler. The controller shall have the ability to vary boiler input throughout its full range to maximize the condensing capability of the boiler without header temperature swings.

The boiler will operate to vary the boiler firing rate linearly as an externally applied 4ma to 20 ma signal is supplied. Unit shall operate with an Inverse Efficiency Curve, with known Part Load Value Efficiencies. Maximum efficiency shall be achieved at minimum firing input. The boiler shall have LCD display for monitoring of all sensors and interlocks.

**Boiler Management System (BMS) with Combination Control System (CCP):** A combination system consisting of \_\_\_ boilers in BMS mode and \_\_\_ boilers in combination system (CCP) mode (maximum of four units) shall be supplied to accommodate the requirements for both space heating and domestic hot water.

The Boiler Manufacturer shall supply as part of the boiler package a completely integrated AERCO Boiler Management System Model 168 Programmer to control all operation and energy input of the multiple boiler heating plant (with all of the previously described features as the BMS II, except Ramp Up/Ramp Down control algorithm, and the BMS Model 168 shall have an LCD display) and a Combination Control Panel (CCP). The CCP shall work in conjunction with the BMS to control the firing of the combination boilers, associated accessories, the motorized control valve, and circulating pump for domestic water production. The BMS mode boilers shall be dedicated to space heating; the Combination mode boilers shall provide indirect domestic water production. The Combination boilers shall utilize pulse width modulation to supplement the BMS mode (space heating) boilers when the space heating load exceeds the total BMS mode boiler capacity.

#### **CONTROLS INTEROPERABILITY**

The "C-More" control panel and the AERCO BMS II shall utilize the MODBUS open protocol to interface with third party Building Automation Systems (BAS).

Controls interface with BACnet, Lonworks, and N2 shall utilize an \_\_\_ optional AERCO Communications Gateway to act as a MODBUS interface/translator between the BAS and either the RS-485 port of the "C-More" boiler control panel or the RS-232 port of the AERCO BMS II. The AERCO Communications Gateway shall be comprised of a microprocessor based control utilizing the MODBUS protocol to communicate with the Boilers via the RS-485. Non-volatile backup of all point mappings and programs shall be internally provided as standard. Connection between Gateway and individual boilers or to the AERCO BMS II shall be "daisy chain" with shielded, twisted-pair, low voltage wiring for ease of installation.

#### **INSTALLATION**

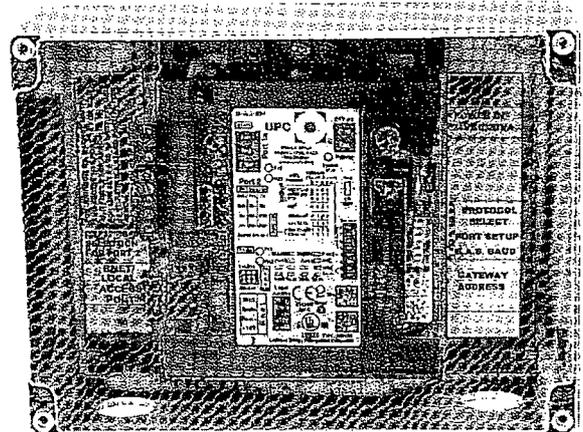
All aspects of installation of Boiler Plant shall be in strict accordance with manufacturer's instructions. The vent system *must conform to* all manufacturer's recommendations and shall utilize UL listed stainless steel AL-29-4C Positive Pressure. The vent must be sized in accordance with AERCO's recommendations. Boiler plant piping shall be field constructed of materials as specified. Each boiler shall have individually isolating shutoff valves for service and maintenance. Each boiler shall require a minimum gas pressure of \_\_\_ 4.0" W.C. (FM gas train) \_\_\_ 4.2" W.C. (IRI gas train) at 1,500 scfh (full load rated capacity).



# MODEL XPC TECHNICAL DATA

## AERCO Communications Gateway

- ✓ Built-in translation for BACnet, LonWorks\*, N2 and ModBus protocols
- ✓ Select protocol and baud rate in the field using simple dip switch
- ✓ Plug-in port for LonWorks and Ethernet cards
- ✓ Captures alarm and trend history for faster troubleshooting
- ✓ Battery-backed memory retains point mappings and programs in the event of power loss



### Description

AERCO offers a multi-protocol, communications gateway to support integration with customers' building control and energy management systems. The plug-n-play package supports integration with Johnson N2, BACnet and LonWorks\* systems. AERCO's Communication Gateway is available for new and installed Benchmark and KC1000 units equipped with Modbus compatible controls or the AERCO BMS, a multiple unit control system. The gateway can also be used with AERCO's steam-to-water and water-to-water heaters that are equipped with the company's Electronic Control System.

The gateway is packaged in a UL-recognized plastic enclosure that can be installed on a wall or mounted on our equipment using a steel mounting bracket. All three protocols reside in the gateway with the desired protocol selected by the customer using a dipswitch. The standard gateway is programmed for up to 12 boilers/heaters, four ECS units, and one BMS with a list of standard control points for each category of equipment. A custom program option, to support access to up to 300 customer selected data points, is also available.

### Specifications

Dimensions .....	8"W x 6"H x 3"D	Ports Provided .....	RS232 & RS485
Weight .....	2 lbs	Protocols Supported .....	ModBus
Battery Requirements .....	Lithium 3V coin Cell		Johnson N2
Baud Rates Supported .....	9600		LonWorks
Power Supply Required .....	24 VAC, 50/60Hz, 20VA		BACnet MS/TP (9600 -76.8 baud)
Maximum Current Draw .....	.85 Amps@24VAC		BACnet Arcnet
Ports Provided .....	RS232 & RS485		BACnet PTP

\*LonWorks available January 2008

Represented by:

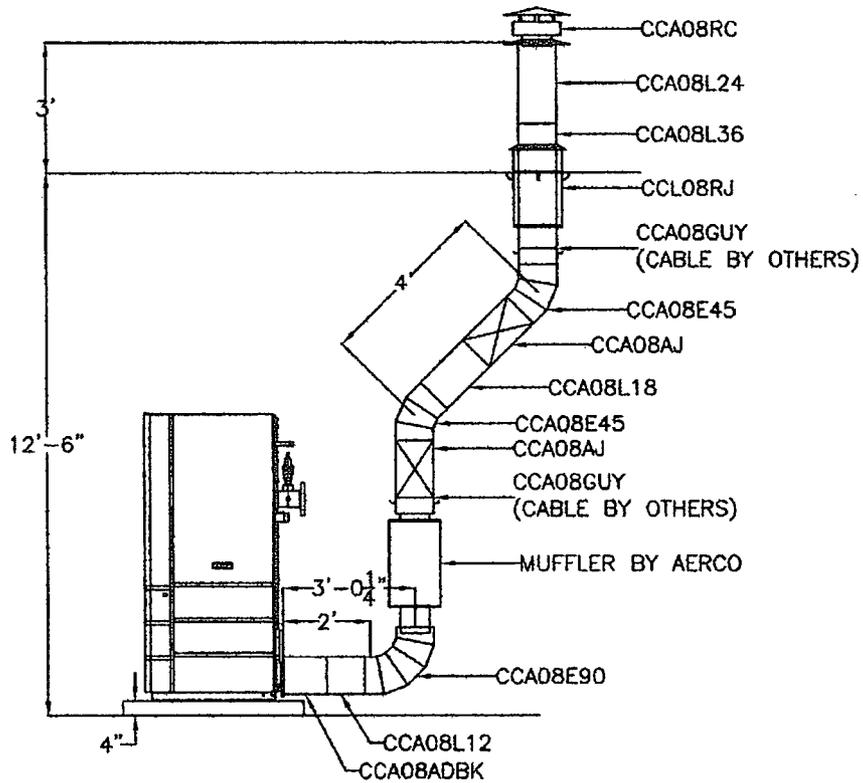
**Clyde** EQUIPMENT COMPANY, INC.  
*Factory Representatives*  
 3470 MI. Diablo Blvd. Ste. A-12D  
 Lafayette, CA 94549  
 PHONE (925) 299-9180  
 GREG SCHNABLE (916) 624-1897

Specifications subject to change.  
 Consult website or contact AERCO.  
 CG-1 11/07 5K  
 NEW DOC 11/07



AERCO INTERNATIONAL, INC. • 159 PARIS AVENUE  
 NORTHVALE, NJ 07647-0128 • (201) 768-2400 • FAX (201) 768-7789  
 www.aerco.com • E-mail: info@erco.com

REV	REVISION NOTE	DATE	BY
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SIDE VIEW TYP OF 2

*JJ 2/15/11*

1/4" = 1'-0"

1 OF 2

NOTES:

1. ALL HORIZONTAL RUNS MUST BE INSTALLED WITH A MINIMUM OF 1/4-INCH PER FOOT SLOPE TOWARD A CONDENSATE DRAIN.
2. HORIZONTAL SUPPORTS ARE REQUIRED EVERY 6 (SIX) FEET, AT EACH TRANSITION FROM VERTICAL, AND AT EACH ADJUSTABLE SECTION.
3. INSTALLER IS TO FIELD VERIFY ALL DIMENSIONS AND PARTS ON THE PARTS LIST BEFORE ORDERING FROM THIS DRAWING.
4. ALL APPLIANCE MANUFACTURER AND HEAT-FAB INSTALLATION INSTRUCTIONS, AS WELL AS ANY LOCAL OR NATIONAL CODES, SHOULD BE FOLLOWED WHEN INSTALLING THIS SYSTEM.

SACRAMENTO CENTRAL LIBRARY

CLY020311

CLYDE EQUIPMENT

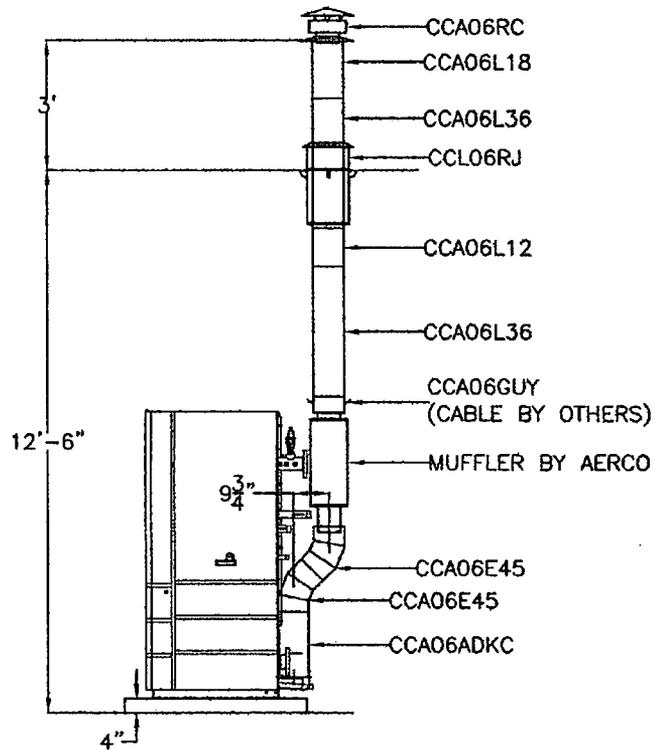
Draw. By

Y BRIGGS

Date

2/3/11

REV	REVISION NOTE	DATE	BY
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SIDE VIEW

1/4"=1'-0"

1 OF 1

NOTES:

1. ALL HORIZONTAL RUNS MUST BE INSTALLED WITH A MINIMUM OF 1/4-INCH PER FOOT SLOPE TOWARD A CONDENSATE DRAIN.
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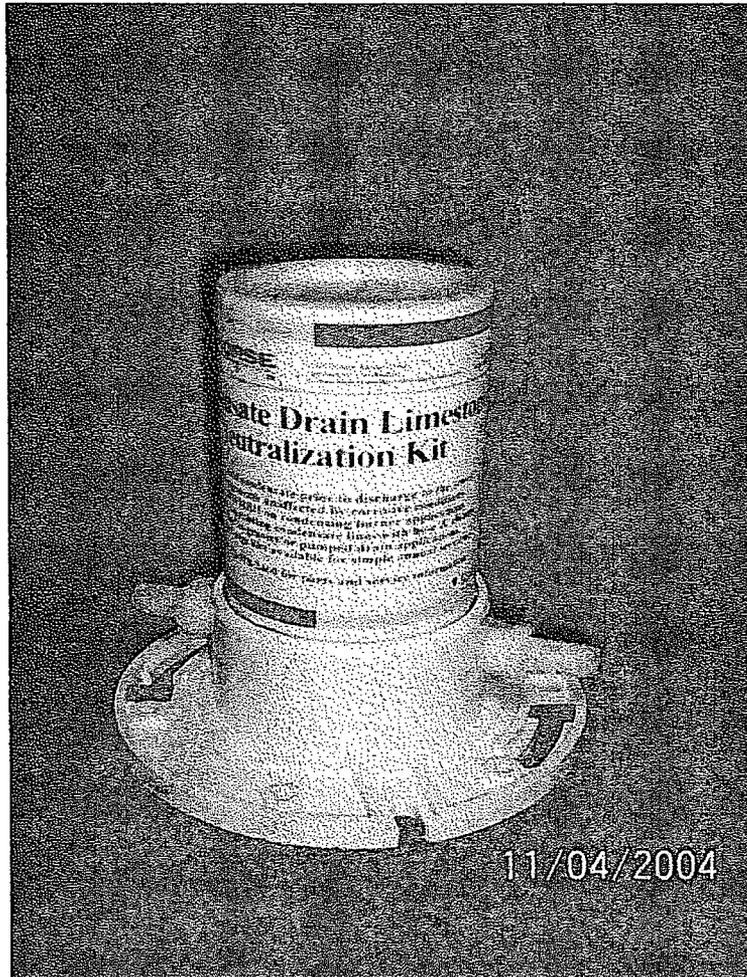
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CLY020311-1

CLYDE EQUIPMENT

Drw. By  
Y BRIGGS

Date  
2/3/11



## Limestone Neutralization Kit for Condensing Burner Condensate Drains

- Neutralizes acidic condensate prior to discharge to the sewer.
- All components unaffected by corrosive conditions.
- Capacity to 4000 MBH on condensing burner applications.
- Installs easily in existing condensate lines with hose & clamps.
- Can be installed in gravity or pumped drain applications.
- Limestone recharge kits available for simple annual servicing.

Dimensions: 13" tall x 7" diameter

(31)  
JJP  
2/15/11

# Clyde Equipment Company, Inc.

**MANUFACTURERS REPRESENTATIVES for HVAC Heating Equipment:**

Boilers–Water Heaters–Heat Exchangers

AL294C Flue Materials–Pumps/Parts–Steam Traps & Repair Kits–Metal Sleeves

## **MAIN OFFICE:**

3470 Mt. Diablo Boulevard, Suite A-120  
Lafayette, CA 94549  
(925) 299-9180 • Fax 299-9186

## **\*\*\*\*\*ROCKLIN OFFICE:**

GREG SCHNABLE  
(916) 624-1897 / FAX 624-7987  
E-MAIL: ClydeSac@SSCTV.net

*Established in 1953...*



*Over 55 Years of Business...*

## **AERCO INTERNATIONAL, INC. <http://www.aerco.com>**

HIGH EFFICIENCY BOILERS & WATER HEATERS  
CATEGORY IV CONDENSING FIRETUBE DESIGN WITH EFFICIENCIES UP TO 99%  
INDIRECT WATER HEATERS, WATER-WATER & STEAM-WATER

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STEAM TRAPS & REPAIR KITS FOR ALL MANUFACTURERS

## **HEAT-FAB, INC. <http://www.heatfab.com>**

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## **JOHNSTON BOILER & BURNER COMPANY/STICKLE DEAERATORS**

<http://www.johnstonboiler.com>

<http://www.johnstonboiler.com/Stickle/default.htm>

PREMIUM QUALITY FIRE TUBE HOT WATER & STEAM BOILERS WITH FULL WET BACK DESIGN UP TO 2500 HP BURNERS FOR USE WITH JOHNSTON VESSELS OR RETROFIT BURNERS FOR OTHER MANUFACTURERS, ULTRA LOW NO<sub>x</sub> CAPABILITIES & FULL LINE OF PACKAGED DEAERATORS

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*(Excluding: Alameda, Monterey, San Joaquin, San Mateo, Santa Clara, Santa Cruz & Stanislaus Counties)*  
HOT WATER BOILERS, STEAM BOILERS, HOT WATER HEATERS, 3---150 HP

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<http://www.precisionboilers.com/precision/main/index.htm>

PACKAGED FLEXIBLE WATERTUBE BOILERS, FIRETUBE BOILERS  
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## **SPIROTHERM [www.spirotherm.com](http://www.spirotherm.com)**

HIGH EFFICIENCY INLINE AIR AND DIRT SEPARATORS FOR HOT WATER, CHILLED WATER & CONDENSER WATER SYSTEMS



INTERNATIONAL, INC.

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159 PARIS AVENUE • NORTHVALE, NJ 07647 • PHONE 201-768-2400

March 12, 2010

RE: Compliance with Section 1605 Buy American Requirements  
of the American Recovery and Reinvestment Act of 2009

To Whom It May Concern:

The following AERCO International products comply with Section 1605 Buy American requirements of the American Recovery and Reinvestment Act of 2009:

Benchmark Series Boilers  
KC1000 Series Boiler and Water Heater  
A+, B+, B+II & E+ Helltherm Heat Exchanger Water Heaters  
DW+ U-Tube Doublewall Heat Exchanger Water Heaters  
SmartPlate Plate Heat Exchanger Water Heaters

A handwritten signature in black ink, appearing to read "Patricia Abrahamsen", with a long horizontal flourish extending to the right.

Patricia Abrahamsen  
Controller  
AERCO International, Inc.



Standard Warranty:  
Benchmark Gas-Fired Hydronic Boiler

**PRESSURE VESSEL/HEAT EXCHANGER: 10 YEARS FROM SHIPMENT**

The pressure vessel/heat exchanger shall carry a 10-year prorated, limited warranty from shipment against any failure due to condensate corrosion, thermal stress, mechanical defects or workmanship. Operation of the boiler using contaminated air will void the warranty. The pressure vessel/heat exchanger shall not be warranted from failure due to scaling, liming, corrosion, or erosion due to water or installation conditions. AERCO will repair, rebuild or exchange, at its option the heat exchanger/combustion chamber according to the following schedule:

<u>Year</u>	<u>Discount From Then Prevailing List Price</u>
1 through 7	100%
8	70%
9	40%
10	25%

**"C-MORE" CONTROL PANEL: <sup>5</sup> YEARS FROM SHIPMENT**

AERCO labeled control panels are conditionally warranted against failure for (2) two years from shipment.

**OTHER COMPONENTS: <sup>5</sup> YEARS FROM SHIPMENT**

All other components, with the exception of the ignitor and flame detector, are conditionally guaranteed against any failure for 18 months from shipment.

AERCO shall accept no responsibility if such item has been improperly installed, operated, or maintained or if the buyer has permitted any unauthorized modification, adjustment, and/or repairs to the item.

The warranty as set forth on the back page of the Operations & Maintenance Manual is in lieu of and not in addition to any other express or implied warranties in any documents, or under any law. No salesman or other representative of AERCO has any authority to expand warranties beyond the face of the said warranty and purchaser shall not rely on any oral statement except as stated in the said warranty. An Officer of AERCO must do any modifications to this warranty in writing. **AERCO MAKES NO WARRANTY OF MERCHANTABILITY OR FITNESS FOR PARTICULAR PURPOSE OR ANY OTHER EXPRESS OR IMPLIED WARRANTIES.** AERCO disclaims all responsibility for any special, incidental or consequential damages. Any claim relating to the product must be filed with AERCO not later than 14 days after the event-giving rise to such claim. Any claims relating to this product shall be limited to the sale price of the product at the time of sale. The sale of the product is specifically conditioned upon acceptance of these terms.

*Added per 1,047  
w/ Labor by  
Clyde Equip. Co.  
2/15/11*



Standard Warranty:  
Benchmark Gas-Fired Hydronic Boiler

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**CONDITIONS OF WARRANTY**

Should an AERCO gas-fired Hydronic boiler fail for any of the above reasons within the specified time period from the date of original shipment(s), AERCO shall, at its option, modify, repair or exchange the defective item. AERCO shall have the option of having the item returned, FOB its factory, or to make field replacements at the point of installation. In no event shall AERCO be held liable for replacement labor charges or for freight or handling charges.

AERCO shall accept no responsibility if such item has been improperly installed, operated, or maintained or if the buyer has permitted any unauthorized modification, adjustment, and/or repairs to the item. The use of replacement parts not manufactured or sold by AERCO will void any warranty, express or limited.

In order to process a warranty claim a formal purchase order number is required prior to shipment of any warranty item. In addition, the returned item must include a Returned Goods Authorization (RGA) label, attached to the shipping carton, which identifies the item's return address, register number and factory authorized RGA number.

Warranty coverage for all components and equipment mentioned in said warranty are not valid unless the Hydronic boiler is started up by a factory certified SST (Service, Start-Up and Troubleshooting) Technician and an AERCO start-up sheet is completed.

This warranty coverage is only applicable within the United States and Canada. All other geographical areas carry a standard warranty of 18 months from date of shipment or 12 months from startup, whichever comes first.