DOCKETED				
Docket Number:	19-ERDD-01			
Project Title:	Research Idea Exchange			
TN #:	234896			
Document Title:	Brian Kolodji, PE Comments - Fw 19-ERDD-01 and Advanced Combustion – Request for Information N/A			
Description:				
Filer:	System			
Organization:	Brian Kolodji, PE			
Submitter Role:	Public			
Submission Date:	9/24/2020 11:53:42 AM			
Docketed Date:	9/24/2020			

Comment Received From: Brian Kolodji, PE

Submitted On: 9/24/2020 Docket Number: 19-ERDD-01

Fw 19-ERDD-01 and Advanced Combustion – Request for Information

Additional submitted attachment is included below.

Bitan Domimici
Marc Straub; Pierroy - Docket Optical System
Fiv: 19-RDD-01 and "Advanced Combustion – Request for Information"
Thursday, Spepherer 74, 2002 12-06; old-14 M
occ2Pina000370/cfrinch Article 2011.pdf
\$56354-2-RBB 0005005 149MBTUDerth O'2Enrich.pdf
\$F650M-2FHB 0006e9030420Small under 2MMBTUDer HR boilerO2Enrich.pdf

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Mr. Brian Dominici of Clayton Industries,

You, as a representative of a manufacturer of boilers capable of oxygen enriched combustion, have provided cost estimates/ quotes for delivery of conventional boilers with an enriched oxygen burners for up to 30% oxygen which I have attached for information to the California Energy Commission. This email is specifically in regards to oxygen enriched fired equipment, especially boilers such as those produced here in the City of Industry in California. In your quotations received, the conventional 12 MM BTU/HF boiler that costs almost \$300,000 requires only a \$100 purgate for process up to 38% oxygen enriched air. The smaller conventional 2 MM BTU/HF boiler that costs almost \$200,000 requires only a nunder \$14,000 upgrade on the burner to process \$38% oxygen enriched air. These boiler modifications save over 30% in the natural gas firing rate, and thus reduce Green House Gas emissions by as much as well, without impacting the duty (see attached published article on oxygen enrichment.) I was hoping, Brian, that you inflict comments on the above quotes and provide further details for the "Request for information" by the California Energy Commission, specifically on capital cost for modification of your boilers and their burners. The request is very short notice, with the information due by 5PM California time today, but I figured if anybody could give a quick answer, it

As you may not know, I am also a member of AIChE and a chemical engineer. Also, I am California business owner of Kolodji Corp and Black Swan, LLC. I have patented and patent pending devices, methods, and processes, including membrane designs and processes for oxygen enrichment and oxy-combustion. I have designed oxy-combustion systems for several companies, including Shell Oil and Lyondell Corp, specifically to increase refinery sulfur plant capacity by 300% using high grade (95%+ pure) cryogenically produced oxygen. As for membranes, I have worked for the largest gas separation membrane supplier (UOP)/Honeywell) and then for the largest membrane user in off-shore oil and gas production (MODEC.) My Black Swan, LLC oxygen producing technology from air has been prototyped with Generon, a Dow Chemical Legacy Company with membrane manufacturing in California, and piloted with membranes fabricated and supplied by Generon. The fifth Black Swan, LLC technology pilot plant is planned for later this year, with a funded demonstration plant, and with plans for 2021 demonstration industrial scale plants to lascale plant to blica scale plant botics aceal path to blica scale plant botics are served for separating oxygen (and CO2) from air, without pressurizing the feed air, that saves up 50% in natural gas firing rates, reduces GHG emissions by as much, with only 15% of the savings used on parasitic, but green, energy use. An article on oxy-combustion article is attached.

Thought you at Clayton Industries might want to weigh in on this recently received email (again, see below) regarding the request for information (again, due today, Thursday, September 24, 2020 by 5PM California Time) from the California Energy Commission on oxygen production, power consumption, and capital costs, as well as other operating costs on using oxygen enriched air in your boilers (specifically mentioned) such as the quotes attached that include your Oxy-combustion technology as well.

Please let me know

Regards.

Brian Kolodji, PE

Kolodji Corp/Black Swan, LLC

Energy Carbon Management Cell: (713) 907-8742

5612 Segovia Way, Bakersfield, CA 93306

2019/2020 Chair Carbon Mgt and Sustainability,

AIChE National Meetings

---- Forwarded Message ----

From: California Energy Commission < listenergia@listserver.energy.ca.gov>

From: Calliofina Energy Commission - Isoacier graphics from Called Transport Sent: Friday, September 4, 2020 4:26 PM

To: NATURALGAS@LISTSERVER.ENERGY.CA.GOV

Subject: [EXTERNAL] NATURALGAS-LIST: Advanced Combustion Technologies - Request for Information

California Energy Commission Newsletter Logo	
_	



September 04, 2020

The California Energy Commission (CEC) is gathering information to inform a solicitation for a future solicitation on oxygen-enriched combustion and would appreciate your responses to the following:

1. The following will help us target our specific research:

- a. What are major barriers (technical, economical, and other) for wide adoption of
- oxygen-enriched combustion?

 b. What are examples of research that could eliminate barriers to wide adoption of
- oxygen-enriched combustion?

 C. What are examples of current or past projects involving oxygen-enriched combustion?
- What are important lessons learned from these projects?

 d. What California industries could benefit most from oxygen-enriched combustion?
- e. What are technical challenges that could result from higher oxygen content and higher combustion temperature (e.g., increased NOx emissions; accelerated degradation of materials in burners, furnaces, kilns)?
- f. Provide examples of existing projects using centralized oxygen generation, distribution via pipeline networks or other approaches that could benefit from R&D.

2. The following will help us establish performance metrics and technology status in California:

- a. Besides cryogenic separation, pressure/temperature swing absorption, ion transport membranes, are there any other promising technologies that should be considered? b. For the technologies listed in item 2a:
- - What is the estimated energy requirement to produce oxygen at the following capacities: 1 metric ton of oxygen per day, 25 metric tons per day, 100 metric
 - tons per day

 ii. What is the estimated capital and operational costs for 1 metric ton per day of oxygen production capacity?
- C. Identify California research teams working on oxygen-enriched combustion.
- d. Identify California companies who develop and sell equipment for oxygen production and oxygen-enriched combustion.

Written comments must be submitted to the Docket Unit by 5:00 p.m. September 24, 2020

Written comments, attachments, and associated contact information (e.g., address, phone number, email address) become part of the viewable public record. This information may also become available via any internet search engine.

The CEC encourages use of its electronic commenting system. Please <u>submit your comments to the Docket Unit at https://eling.energy.ca.gov/comment.psp/?dockethumber19ERDD.</u>
11. Select or enter a proceeding be talken to the 'Add Comment' page. Enter your comment in the 'Add Comment' page. Enter your comment in your comment in your comment and the comment in your co



2nd Oxyfuel Combustion Conference

Reduction of Fuel Consumption and Emissions of a Gas Turbine by Using of Oxygen-Enriched Combustion

Cristiano Frandalozo Maidana, Adriano Carotenuto, Paulo Smith Schneider

Federal University of Rio Grande do Sul, Porto Alegre, Brazil

Keywords: Oxygen-Enhanced Combustion, fuel consumption, emission reduction, gas turbine design

1. Abstract

The majority of combustion processes uses air as oxidant, roughly taken as 21% O_2 and 79% N_2 , by volume. In many cases, these processes can be enhanced by using an oxidant that contains a proportion of O_2 a little bigger than in regular air. This is known as oxygen-enhanced combustion or OEC, and can bring important benefits like higher thermal efficiencies, lower exhaust gas volumes, higher heat transfer efficiency, reduction fuel consumption, reduced retrofit costs and substantially pollutant emissions reduction. Within this scenario, this paper aims to investigate the behavior of a gas turbine power plant fed by a oxidant stream ranging from 21 to 30% oxygen concentration, at steady state operation and with a net power output of 30MW. Simulations show that the retrofit with OEC reduces both fuel consumption on about 25% and flue gas formation of up to 30%. However, it was necessary a supply of 0.20 kmol/s of pure oxygen to sustain the process.

2. Literature Review

Oxygen enhanced combustion (OEC) technology is one of the useful energy-saving technologies for combustion systems. Although nitrogen in the air is an inert gas it actually reacts at high temperatures and also carries away a significant part of the energy of the reaction, lowering the fuel availability. In contrast, OEC combustion can overcome this disadvantage due to the lower nitrogen concentration involved.

According to Bisio et al., 2002, the barrier to couple oxygen to power cycles is the high cost of oxygen production on cryogenic plants, but the use of membranes technology to obtain an enriched stream with 30-45% oxygen may offset the costs of oxygen implementation with the fuel saving obtained.

Wu et al., 2010, studied the influence of oxygen concentration ranging from 21 to 30% in natural gas combustion (in the heating and furnace-temperature fixing tests). They noticed a gain on fuel consumption of 26.1% operating at 30% O_2 , compared to regular atmospheric concentrations (21% O_2), with furnace temperature of 1220°C.

3. Method

In order to access the behavior of a gas turbine for power generation running on EOC with oxygen concentration ranging from atmospheric contents to up to 30%, a thermodynamic model was proposed, as depicted at Figure 1. The gas turbine cycle presented is assembled by a compressor, an expansion turbine, and a combustion system. This last one is composed by a combustion chamber and auxiliary devices, as an air splitter, a gas mixer, and an oxygen injector.

Corresponding author. Tel.: +55-51-3308-3931 E-mail. cristiano.maidana@ufrgs.br

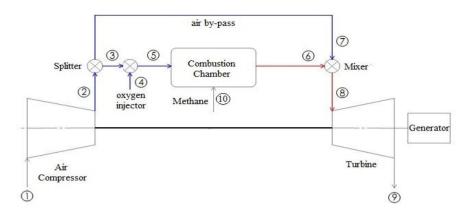


Figure 1: Gas turbine schematics for Oxygen-Enriched Combustion (OEC)

Simulations were performed considering the adiabatic combustion of natural gas (methane) at a temperature of 2000K, with a prescribed flue gas temperature of 1100°C at the turbine inlet. Atmospheric air was taken as 79% N_2 and 21% O_2 . The most relevant quantities calculated by the simulation model are the reactant molar flow rates (fuel and oxygen), the stoichiometric ratio in the chamber combustion and molar flow rate of flue gas.

Flue gases stream was taken as: N_2 , O_2 , CO_2 , H_2O , OH, H_2 , NO, NO_2 , CO, O, H, N. Their molar concentrations were validated by the CEA-NASA software (Chemical Equilibrium with Applications), developed by Gordon et al. in the Glenn Research Center of NASA.

The complete set of equations was solved with the Engineering Equation Solver (EES), an algebraic non-linear solver with an integrated library of thermodynamic property of species

The parameters of the simulation are listed in Tab. 1 for all the proposed cases, segregated by equipment. The net power output for all the simulations was 30 MW.

Table 1. Simulation parameters

Air Compressor	Splitter
$T_1 = 298.15 \text{ K } (25 \text{ °C}), p_1 = 1,013 \text{ bars } (1 \text{ atm})$	Air molar analysis: 21% O_2 and 79% N_2 in streams 3 and
Air molar analysis: 21% O_2 and 79% N_2	$7, p_2 = 18.23 \text{ bars}$
Pressure ratio: $p_2/p_1 = 18$, $\eta_c = 0.65$	
Oxygen injector	Combustion Chamber
100% O_2 in stream 4, $T_4 = T_1$	$p_6 = 10.13$ bars, $T_{10} = 298.15$ K, $T_6 = 2000$ K
Mixer	Turbine
$T_8 = 1373.15 \text{ K } (1100 ^{\circ}\text{C})$	$\eta_t = 0.86$

The variables of the system are presented in Table 2:

Table 2. Simulation variables

Air Compressor	Splitter
$T_{2}^{},T_{2,s}^{},\overline{h}_{2}^{}_{},\overline{h}_{2,s}^{},\dot{n}_{1}^{},\dot{W}_{c}^{}$	\dot{n}_3 , \dot{n}_7
Oxygen injector	Combustion Chamber
\dot{n}_4 , \dot{n}_5	$arphi$, \dot{n}_{6} , \dot{n}_{10}
Mixer	Turbine
\dot{n}_8 , y	$T_{_{9}},T_{_{9,s}},ar{h}_{_{9}},ar{h}_{_{9,s}},\dot{W}_{_{t}},\dot{n}_{_{9}}$

4. Results and Discussions

The Fig. 2 shows the reduction of fuel (methane) with increasing oxygen concentration of the oxidant input stream of combustion chamber. This enhanced oxygen combustion leads to a net reduction of nitrogen flow rate:

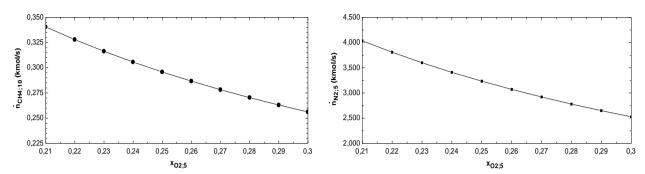


Figure 2. Fuel consumption (left) and nitrogen molar flow rate in stream 5 (right) as a function of molar fraction of oxygen in the oxidizer, for an adiabatic combustion of methane and $T_6 = 2000$ K

As a result of the reduction of the air flow rate intake at point 3 (and thus, the nitrogen concentration), an addition of pure oxygen flow rate is needed in order to keep the combustion process at stoichiometric condition. In contrast, a reduction of gas flue gas is achieved. These characteristics are show in Figure. 3:

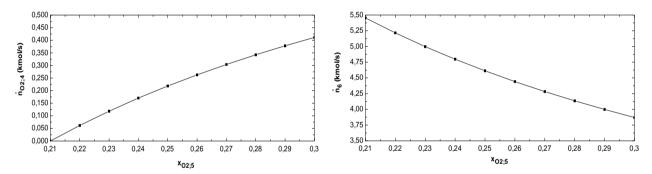


Figure 3. Molar flow rate of oxygen delivered by the injector (left) and molar flow rate of exhaust gas leaving the combustion chamber (right) vs molar fraction of oxygen at the entrance of the combustion chamber for an adiabatic combustion of methane and $T_6 = 2000$ K

Figure 4 displays the reduction in power cycle emissions for two major pollutants (CO₂ and NO) with respect to the oxygen concentration in the oxidizer stream. Results have a maximum deviation of 3% compared to those obtained with the software CEA-NASA:

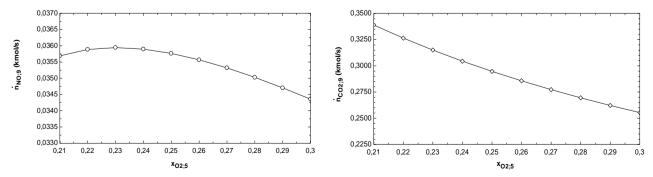


Figure 4. Reduction in the molar flow rate of NO (left) CO_2 (right) emitted by the gas turbine vs the molar fraction of oxygen in the oxidizer for an adiabatic combustion of methane and $T_6 = 2000$ K

5. Conclusion

In this work, a gas turbine cycle was modeled and simulated with a special attention to the description of the combustion process within the combustion chamber and its auxiliary devices, needed to represent a more realistic enhanced oxygen combustion (OEC) process. This paper aims to be a proof of concept of the OEC applied to gas turbines. As a preliminary approach, the temperature at the combustion chamber was left free to reach higher levels, compared to combustion with air. Main emission products were limited to N_2 , O_2 , CO_2 , H_2O , OH, H_2 , NO, NO_2 , CO, O, H, N, modeled by chemical equilibrium

Results showed a reduction of up to 24.8% on fuel consumption on OEC compared to the standard case, i.e., oxidizer at atmospheric composition. Moreover, it was also possible to achieve a significant reduction in the formation of major pollutants. Emissions displayed a maximum decrease of 3.75% for NO, 24.7% for CO_2 and 47.9% for CO. However, there was a need for pure oxygen supply (stream 4) that achieved $6.67x10^{-6}$ kmol per kJ of electrical output when operating at 30% concentration. To overcome this penalty, this oxygen flow could be supplied by a low-cost technologies, such as membranes, PSA (pressure swing adsorption), TSA (thermal swing adsorption), among others.

6. Acknowledgements

The authors thank the Brazilian Research Council CNPq due to the financial support by means of a Masters Degree scholarship, a Doctor Degree scholarship and a research grant, respectively, as well as to the CNPq Mineral Coal Research Net and the international cooperation CAPES/PROBAL/Process/ n°348-10.

7. References

- Baukal, C.E., 1998. "Oxygen Enhanced Combustion". Ed. CRC Press LLC, Florida, USA, 356 p.
- Bejan, A., Tsatsaronis, G., Moran, M., 1996. "Thermal Design and Optimization". Ed. John Wiley & Sons, Inc., USA, 542 p.
- Bisio, G., Bosio, A., Rubatto, G., 2002. "Thermodynamics applied to oxygen enrichment of combustion air". Energy Conversion and Management 43, 2589-2600.
- Gordon, S., McBride B., J., 1994. "CEA: Computer Program for Calculation of Complex Chemical Equilibrium Compositions and Applications". NASA Reference Publication 1311, Cleveland, Ohio, USA, 61 p.
- Horbaniuc, B., Marin, O., Dumitrascu, G., Charon, O., 2001. "The influence of the compression interstage cooling by adiabatic humidification of the steam injection and of the oxygen enriched combustion upon the gas turbine co-generation systems". 2nd Heat Powered Cycles Conference Conservatoire national des arts et métiers, Paris.
- Turns, S.R., 2000. "An Introduction to Combustion: Concepts and Applications". Ed. McGraw-Hill, Singapore, 700p.
- Wu, K., Chang, Y., Chen, C., Chen, Y., 2010. "High-efficiency combustion of natural gas with 21-30% oxygenenriched air". Fuel (article in press).



17477 HURLEY STREET, CITY OF INDUSTRY, CALIFORNIA 91744 TEL: (661)263-0923

To: Black Swan LLC

5612 Segovia Way

Bakersfield, CA 93306

ATTN: Brian Klodji

(713) 907-8752 M

bkolodji@sbcglobal.net

Terms: 20% with Order, 70% prior to shipment, 10% balance net 30 days

Galainette Garalit Barrana

Subject to Credit Approval

FOB: Factory - Freight Prepay & add

Approx. Ship Date: Approx. 150 days After Receipt and Acceptance of Order

Ref: Proposal 350 BHP Clayton Steam Generator

1 MODEL SEG354-2-FMB STEAM GENERATOR

Rated Boiler Horsepower: 350 BHP
Equivalent Steam Output: 12,075 pph
(from and at 212F feedwater and 0 psig steam)
Design Pressure: 200 psig
Operating pressure: 170 psig
Safety Valve Set: 200 psig

Fuel Specification: Natural Gas (1,000 BTU/CF)
Required Minimum Gas Pressure (at gas train inlet): 5 psig

Electrical Requirements: Voltage 460/60/3

Constructed per ASME Section I and National Electric Code

Hartford Tested and Inspected, GE GAP & FM Global & CSD-1 Compliant, UL Labeled

STEAM GENERATOR SHALL HAVE THE FOLLOWING COMPONENTS

MOUNTED ON A SINGLE FRAME:

Monotube Heating Coil with Integral Burner Base

99.5% Quality Steam Separator, ASME stamped w/Safety Relief Valves

Natural Gas Fuel Train

and Modulating Low NOx, Fiber Metal Burner w/4:1 turndown ratio

Forced Draft Blower and TEFC Motor Cooling Air Blower and TEFC Motor

Positive Displacement Main Feedwater Pumps

and Variable Speed TEFC Motor (on separate skid)

Control Cabinet with Operator Interface Keypads

Compusteam PLC Controls
Hour Meter and Alarm Horn

Pilot Gas Regulator (5 to 60 psig supply pressure)

Main Gas Regulator - Built-in (5 to 10 psig supply pressure)

Feedwater, Steam & Trap Pressure Gauges (on common panel)

THIS QUOTATION EXPIRES IN 30 DAYS AND IS SUBJECT TO THE TERMS AND CONDITIONS ATTACHED. SUCH TERMS AND CONDITIONS LIMIT ACCEPTANCE OF THIS QUOTATION TO THE TERMS CONTAINED HEREIN, EXCLUDES ANY ADDITIONAL TERMS PROPOSED BY THE PURCHASE, AND PROVIDES THAT ANY ORDER BY PURCHASER BASED ON THIS QUOTATION (OR ACCEPTANCE BY PURCHASER OF THE GOODS DESCRIBED HEREIN) SHALL CONSTITUTE AN UNCONDITIONAL ACCEPTANCE BY PURCHASER OF EACH AND ALL OF THE TERMS AND CONDITIONS CONTAINER HEREIN, AND A WAIVER BY PURCHASER OF ANY CONFLICTING OR ADDITIONAL PROVISIONS CONTAINED IN ANY OR PURCHASER'S DOCUMENTS RELATING TO THIS TRANSACTION.

ACCEPTANCE	THIS QUOTATION IS	ACCEPTED	SUBMITTED BY
COMPANY			Brian Dominici - Sr. Thermal Sales Engr. 3-5-20
ВУ			
NAME	TITLE	DATE	

ACCESSORIES INCLUDED WITH STEAM GENERATOR

SE Super Economizer Coil Section. Provides additional heating surface to improve thermal efficiency. Supported by main heating section, includes outer shell and interconnecting piping.

99.5% Quality Fixed Vane Steam Separator in lieu of standard 98% Quality Tangential Steam Separator. Design offers dryer steam output and improved separation during load swings.

Special fiber metal burner design for enriched air of 38% 02. Special refractory with ceramic lining for enhanced temperature. No guaranteed level on Nox.

Gauge Panel Kit. Centrally located panel for Steam, Feedwater and Trap Pressure gauges. Includes factory mounting of gauges and flexible sensing lines.

TEFC Modification Kit, includes TEFC motors and water tight ignition transformer box. Modification provides an extra degree of protection against dirt and dripping water. Note this modification does not make the unit suitable for outdoor, un-protected installation.

Steam Header Valve, globe type with chain operator.

Pump Oil Level Switch. Provides automatic unit shutdown for high or low feedwater pump crankcase liquid level condition.

Dial thermometer mounted on steam separator for monitoring separator steam temperature.

Auxiliary Pressure Control System, including auxiliary steam pressure sensor, separator dump valve and post run timer.

Installation Valve Kit: includes Coil Gravity Drain, Coil Drain (back flow), Separator Drain and Trap Outlet Valve.

Feedwater Valve and Strainer Kit, includes shutoff valve and y-type strainer. Shipped loose for customer installation.

Auxiliary Relay dry contact for activation of booster pumps and/or chemical pumps circuit when power is applied to unit.

Back Pressure Regulator - Butterfly Valve

Universal Alarm Relay Kit. Provides a normally open and normally closed relay contact for connection to a customer supplied remote alarm device. Customer is required to provide power to and from the preferred contact, NO or NC.

Dual Steam traps on Steam separator for smoother trap return flow on D/A feedwater systems.

Feedwater Pump Head Cooling. Includes pump modifications for water cooling of pump heads. For use with SCR, Deaerator and high pressure systems. Customer must cooling water supply lines, except on generator skid packages.

Remote Start/Stop option consists of an additional relay, solenoid operated dump valve and programming of a post-fill timer circuit. A "Dry contact" signal is required from the customer to either remotely start or stop the unit. Unit must be set up for wet lay-up condition.

Ethernet connectivity module for remote access to control system parameters. ENIW module will format data into tabular page viewable on company network.

Upgrade to Siemens LMV52 Controller

Dual Gas Train

Sub-Total SEG354-2-FMB Steam Generator with above equipment:	\$267,621.00 EACH
Special Burner	\$15,570.00 EACH
Dual Gas Train	\$5,120.00 EACH
TOTAL:	\$288.311.00 EACH

COMMON FEEDWATER SYSTEM SIZED FOR 700 BHP

- Deaerator Tank with Trim Kits
 Assembly includes: Level controller, make-up control valve, overflow drain, high and low level alarm contacts, safety relief valve(s), vent valve, water level gauge glass and cocks, pressure gauge with syphon pipe and cock, thermometer, back pressure regulator, and pressure reducing valve. ASME Coded and National Board Stamped for psig. Suitable for up to 700 connected BHP.
- 2 (100%) Booster Pump, to provide sufficient NPSH for main positive displacement feedwater pumps, all iron construction, centrifugal-type with high temperature tungsten carbide/carbon viton mechanical seals and motors. Suitable for up to 700 connected BHP.
- Liquid Chemical Injection Pumps, positive displacement with ceramic ball valves & Teflon seats. Pump capacity: 14.4 gpd, 115V/50-60hz/1ph
- Automatic TDS Controller, including TDS electrode sensor and motorized dump valve for control of total dissolved solids (TDS) level.
- Blowdown Tank with automatic discharge temperature control valve, for collection and cooling of blow down water. Constructed per ASME, National Board stamped and approved.
- Clayton Model EFC450-2F Automatic Twin Water Softener. Capacity of 450,00 grains per mineral tank. System includes: Two (2) fiberglass mineral tanks, Y-strainer, brine tank, water meter, and electronic sequence controller. Unit regenerates based on actual make-up water usage. Softener is sized for 700 BHP, 0% condensate return rate, 12 hour regeneration cycle and 10 grains per gallon makeup water hardness. If these conditions change, softeners may need to re-quoted.

SUB-TOTAL	700	BHP	FEEDWATER	SYSTEM	SKID	MOUNTED:		\$105,64	45.00
-----------	-----	-----	-----------	--------	------	----------	--	----------	-------

NOTES:

- 1. Freight, Sales Tax, and any other applicable fees are extra.
- Time required from placement of order to actual shipping date shown on first page is approximate. Actual shipping date will be based on receipt and acceptance of order, receipt of down payment and full engineering details to complete order entry. If approval drawings are required, shipment time will be from the date of receipt of final drawing approvals.
- Pre-installation consultation and Site survey, Equipment check-out, Start-up and personnel training (at time and place of start-up) for up to two consecutive normal working days for installations within 150 miles of an authorized Clayton Service branch is included in the base price. (Normal working hours are 8:00 AM to 5:00 PM Monday through Friday). If the location is outside 150 miles, there will be additional charges for travel and living expenses. If additional labor time is required or if work is to be performed outside normal working hours, additional time would be billed at prevailing Clayton service rates.
- Clayton's standard equipment is intended for indoor use only and must be protected from weather at all times. The steam generator and any associated water and chemical treatment equipment must be maintained above 45oF (7oC) at all times.

Total price includes:

Factory fire-testing; One (1) Set of Standard Plan-Installation and Electrical drawings, Installation, Feedwater Treatment, and Operation and Maintenance manuals. Documentation will be issued in electronic Adobe "PDF" file format. Drawings will also be issued in AutoCAD "DWG" format where available. CD will be supplied with final submittal. Paper copies require an additional charge per set.

Clayton warrants its equipment to be free from defects in material and/or workmanship for a period of 1 year from date of original installation, or 15 months from date of shipment from the factory, whichever is shorter. Equipment installed in the continental U.S. also includes CLAYTON'S FIVE (5) YEAR LIMITED COIL WARRANTY. This warranty covers defects in material and/or workmanship, and is based on an analysis by an independent engineering company for metallurgical analysis. These warranties pertain only to parts. Warranty labor is also included for a period of 90 days after commissioning or 180 days from shipment, whichever is less. See attached Terms and Conditions of Sales for further details.

1. MODIFICATION, REVOCATION, EXPIRATION This quotation is subject to modification, withdrawal, or revocation by Clayton Industries ("Clayton") at any time prior to its the quotation date unless unconditionally accepted prior thereto by purchaser and Clayton or extended in writing by Clayton. CLAYTON TERMS AND CONDITIONS

its unconditional acceptance, and shall, except as expressly provided on the reverse side hereof, expire automatically thirty (30) days after

- a) All prices quoted herein supersede all prior quotations for similar goods, and are f.o.b. shipping point, unless otherwise expressly specified in writing by Clayton. Payment shall be due in United States dollars according to the terms specified in writing
- on the invoice.

 b) With respect to orders scheduled for shipment sixty (60) days or more after the quotation date, Clayton reserves the right to invoice such shipments at the prices prevailing at the time of shipment.

 c) Unless otherwise specified in writing by Clayton, prices quoted herein do not include the amount of any sales, use, excise, manufacture, processing or other taxes. Purchaser agrees to pay any such taxes which are applicable to orders made pursuant to this quotation either to Clayton or, if authorized by law, directly to the taxing authority, or in lieu thereof to provide Clayton with a tax-exemption certificate acceptable to the taxing authority.

 d) Acceptance of orders by Clayton is subject to the approval of the Credit Department of Clayton at the Home Office, City of Industry, California.

 e) If purchaser fails to make payments in accordance with Clayton's terms, or if, in the judgment of Clayton, the financial condition of purchaser at any time does not justify the terms of payment specified, Clayton may require full or partial payment in

- e) If purchaser fails to make payments in accordance with Clayton's terms, or if, in the judgment of Clayton, the financial condition of purchaser at any time does not justify the terms of payment specified, Clayton may require full or partial payment in advance and may cancel any order then outstanding and receive reimbursement for cancellation charges incurred by Clayton.

 f) At the option of Clayton, pro rata payments shall become due as shipments are made.
 g) CLAYTON AND PURCHASER EXPRESSLY AGREE THAT THE UNPAID BALANCE SHOWN ON ANY INVOICE SUBMITTED BY CLAYTON TO PURCHASER FOR ANY GOODS SOLD BY CLAYTON TO PURCHASER SHALL BE DUE AND OWING IN ACCORDANCE WITH THE TERMS OF PAYMENT STATED ON THE PACE OF SUCH INVOICE AND IF NO SAID TERMS ARE STATED, THEN THIRTY (30) DAYS FROM THE DATE OF SUCH INVOICE. CLAYTON AND PURCHASER ALSO AGREE THAT NON-PAYMENT OF THE UNPAID BALANCE OF THE INVOICE TOTAL IN FULL OR IN PART UPON THE DUE DATE PROVIDED HEREIN SHALL CONSTITUTE A BREACH OF THE CONTRACT BUM OF TWO (2%) PERCENT OF THE UNPAID BALANCE OF THE INVOICE TOTAL SHALL BE REMITTED TO CLAYTON AS LIQUIDATED DAMAGES TO CLAYTON WOULD BE DIFFICULT TO DETERMINE PRECISELY AND THAT AS LIQUIDATED DAMAGES FOR EACH MONTH, OR FRACTION THEREOF, IN WHICH THE UNPAID BALANCE OF THE INVOICE TOTAL IS NOT PAID IN FULL. HOWEVER, SUCH PAYMENT OF DAMAGES SHALL NOT BE CONSTRUED AS A WAIVER BY CLAYTON OF PURCHASER'S OBLIGATIONS HEREUNDER REGARDING TIMELY PAYMENT OF BAMAGES CUER OR PECUSE ANY ROBE AGE HOW DEFEAULT HEREUNDER. OF SUMS DUE, OR AS INTEREST, NOR SHALL SUCH PAYMENT OF DAMAGES CURE OR EXCUSE ANY BREACH OR DEFAULT HEREUNDER.

- 3. SHIPMENTS AND TRANSPORTATION CHARGES

 a) Unless otherwise specified in writing by Clayton, delivery will be made f.o.b. shipping point. Unless specific instructions are given, Clayton will decide how to pack and ship all goods. Premium rate services such as rail or air express, air freight, etc., will be utilized only when specified by purchaser. Unless otherwise requested in writing, goods shipped by parcel post will be insured, and the postal fee is added to the invoice price.
- b) No charge will be made for boxing or crating required by the transportation company for domestic shipments. Costs of special boxing, export boxing cartage to steamer, and transfer expenses will be added to the invoice price unless such charges are shown to be included in the prices quoted.

4 DELAY OF DELIVERY

- a) All shipping dates given by Clayton are approximate only. Receipt of the goods by purchaser upon delivery shall constitute a waiver of all claims for delay.

 b) Delivery may be delayed where Clayton has not promptly received all necessary information from purchaser, and such shall constitute a delay by purchaser. When delivery is delayed by purchaser, or at purchaser's request: (1) Clayton may, at its option, present the invoice for the full price of the goods to purchaser at any time and such shall then immediately due and payable; (1) purchaser shall also pay to Clayton a storage and handling charge equal to 1-1/2% of the purchase price of the goods per month, or any portion thereof; (III) purchaser shall also pay to Clayton a storage and handling charge equal to 1-1/2% of the purchase price of the goods per month, or any portion thereof; (III) purchaser shall also pay at its option, declare such delay to be a cancellation of the order by purchaser under
 - c) If delivery is delayed due to any cause beyond Clayton's reasonable control, the date for shipment shall be extended during the continuance of such cause and for a reasonable time thereafter.

5. CANCELLATIONS, ALTERATIONS AND RETURNS

- 5. CANCELLATIONS, ALTERATIONS AND RETURNS

 a) Cancellation by purchaser of any order for Clayton's standard goods (goods which are described in Clayton's current general literature and brochures and are ordered without alterations or modifications thereto) must be made in writing to Clayton.

 Cancellation by purchaser may not be made of any order for nonstandard goods or of any order for standard goods which are to be altered at purchaser's request except with the written consent of Clayton.

 (b) Following any cancellation by purchaser described in Subparagraphs (b) to 7(a) of this voice, purchaser shall be liable to Clayton for its reasonable expenses, losses and a profit attributable to the cancellation. Such losses and cancel made to the profit (including reasonable overhead), which Clayton would have made from full performance by purchaser, together with any incidental damages provided by Section 2710 of the California Commercial Code. Any amounts due to Clayton under this Subparagraph (b) for cancellations shall be in addition to those amounts due to Clayton under Subparagraph (b) for delays,

 c) Following Clayton's acknowledgment of any order made by purchaser, purchaser may alter or modify such order only upon the written consent of Clayton and upon the payment of Clayton's reasonable expenses, losses and a profit attributable to

- d) If this quotation provides for goods to be custom-made for special application, the prices stated in the prior quotation (if any) and/or order acknowledgment (if any) are applicable only when correct tolerance requirements have been provided by purchaser by print or sample part. If changes in fabrication or design are required by reason of incorrect tolerances furnished or deviations from samples submitted, Clayton's reasonable expenses and losses attributable to such changes are added to the invoice
 - e) No goods may be returned to Clayton without its prior written consent. Upon such consent, Clayton may assess a reasonable restocking charge against purchaser. All goods returned must have all freight and transportation charges prepaid.

- 6. RISK OF LOSS, DAMAGE OR DELAY

 a) Clayton shall not be liable for any loss, damage, detention, or delay resulting from causes beyond its reasonable control, including but not limited to the acts or omissions of purchaser, of God, or of a force majeure, or due to fire, casualty, civil or military disturbances or authority, labor disputes, wrecks or delays in transportation, governmental laws or regulations, or difficulties beyond Clayton's reasonable control in obtaining necessary labor, materials, fuels, components, or facilities.
 b) Unless otherwise specified in writing by Clayton, and except as provided in Subparagraph 4(b) above, Clayton's responsibility for loss or damage to goods ceases upon delivery of the goods in good order to transportation companies f.o.b. shipping point, and all goods are shipped at the sole risk of purchaser. Purchaser should carefully examine all goods before accepting delivery and before signing the freight bill or delivery receipt. If the carrier delivers the goods in bad order, purchaser must insist on carrier's agents making a notation of the condition on the freight bill or delivery receipt.
- c) Breach of this contract shall have no affect upon the provisions contained herein controlling the risk of loss or of damage to the goods covered hereby, and purchaser hereby waives the provisions of Section 2-510 of the Uniform Commercial Code,

- 7. WARRANTY

 a) Clayton warrants its goods to be delivered hereunder to be free from defects in material and/or workmanship for a period of one (1) year from the date of original installation by purchaser or 15 months from the date of shipment from the factory, or for the period as may be specified in a Clayton written warranty shipped with such equipment, whichever is shorter. Upon the expiration of such warranty period, or in the event such goods are subjected to improper installation, misuse, negligence, alteration, accident, improper repair, or are operated contrary to Clayton's printed instructions, all liability of Clayton shall immediately cease. THE FOREGOING WARRANTY IS EXCLUSIVE AND IN LIEU OF ALL OTHER WARRANTES, EXCEPT TITLE AND DESCRIPTION, WHETHER WRITTEN, ORAL, OR IMPLIED, AND CLAYTON MAKES NO WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. No representative of Clayton has any authority to waive, alter, vary, or add to the terms hereof without prior approval in writing executed by two officers of Clayton.

 b) If within the period of such warranty the purchaser promptly notifies Clayton's Service Department, Attention: Warranty Repairs, in City of Industry, California, in writing, of any claimed defect and if requested by Clayton, returns such part or parts so are defective, Clayton will, at its option, repair such defective part or parts or replace the same with like or similar part or parts, provided however, that the purchaser shall be responsible for all transportation and labor charges relating to the installation of any replacement part or removal of a defective part.

 c) It is expressly understood that the repair or replacement of such defective part or parts yeldent that repair or replacement of such defective part or parts yeldent instructions, all liability of Clayton shall constitute the sole remedy of purchaser and the sole liability of Clayton, whether on warranty, contract or negligence, and that Clayton shall not be liable for any other expense, injury, loss or dama

8. PATENT INFRINGEMENT

- 8. PATENT INFRINGEMENT

 a) Clayton shall conduct at its own expense, the entire defense of any claim, suit or action alleging that, without further combination or alteration, the use or resale by purchaser of the goods sold or delivered hereunder directly infringes any United States patent, but only on the conditions that (a) Clayton receives prompt written notice of such claim, suit or action and full opportunity and authority to assume the sole defense thereof, including settlement and appeals, and all information available to purchaser and defendant for such defense; (b) said goods are made according to a specification or design furnished by Clayton or, if a process patent is involved, the process performed by the goods is recommended in writing by Clayton; (c) the claim, suit or action, such and a strong the goods, in the process patent is involved, the process performed by the goods is recommended in writing by Clayton; (c) the claim, suit or action, or shall pay all damages excluding consequential damages, and costs awarded by the court therein. If infringement claim or if the use or resale of such goods is finally enjoined, purchaser will permit Clayton, at Clayton's option to, (1) procure for defendant the right to use or resell the goods, (II) replace them with equivalent, noninfringing goods, (III) modify thems on they become noninfringing but equivalent, or (IV) remove them and refund the purchase price (less a reasonable allowance for use, damage or obsolessence). The foregoing states the entire obligation of Clayton with respect to infringement of patents.

 b) If a claim, suit or action is based on design or specification furnished by purchaser on the performance of a process not recommended in writing by Clayton, or on the use or sale of the goods sold or delivered hereunder in combination with other goods not sold or delivered to purchaser shall indemnify and save Clayton harmless therefrom.

9. SECURITY INTEREST

- a) A security interest in and title to the goods sold hereunder shall remain in Clayton and such goods shall remain personal property until fully paid for in cash, and purchaser agrees to perform all acts which may be necessary to perfect Clayton's security interest in such goods including, for example, the execution of a Uniform Commercial Code Financing Statement.
 b) Upon the default of purchaser, Clayton shall have, in addition to all other remedies provide by law, the right to take possession, without judicial process in any manner which does not breach the peace, of any goods in which Clayton then has a security interest. Upon Clayton's request, purchaser shall assemble such goods at purchaser's own expense and make them available to Clayton at purchaser's own expense at a place to be designated by Clayton which is reasonably convenient to both parties.

10. ACCEPTANCE OF GOODS, CURE OF DEFECTS

- 10. ACCEPTANCE OF GOODS, CURE OF DEFECTS

 a) Any goods delivered pursuant to this contract shall be deemed finally inspected and irrevocably accepted by purchaser fifteen (15) days after receipt thereof by purchaser unless purchaser, within said 15-day period, gives written notice of rejection or of revocation of acceptance to Clayton. Said notice shall specify all claimed defects and nonconformities, and the failure to specify any defect or nonconformity shall constitute a waiver of that defect or nonconformity.

 b) Upon receipt of purchaser's notice of rejection or of revocation of acceptance, Clayton shall have a reasonable time in which to cure the defect or nonconformity claimed by purchaser even though such reasonable time extends beyond the delivery date specified by Clayton. Purchaser shall make the goods available to Clayton during such period. In the event Clayton is able to reasonabley cure said defects or nonconformities, purchaser's prior notice of rejection or of revocation of acceptance shall be of no legal force of effect, and the goods shall be deemed fully inspected and irrevocably accepted by purchaser fifteen (15) days after such cure by Clayton unless purchaser, within said 15-day period gives written notice to Clayton as specified in Subparagraph 9(a) above.

11. LIMITATION OF LIABILITY

Clayton's liability on any claim of any kind, including negligence, for any expense, injury, loss or damage arising out of, or connected with, or resulting from this contract, or from the performance or breach thereof, or from the manufacture, sale, delivery, resale, repair, or use of any goods covered by or furnished under the contract shall in no case exceed the contract price allocable to the goods, or to the part or parts thereof, which give rise to such claim and in no event shall Clayton be liable for any special, consequential, or incidental damages.

12. THIRD PARTIES

- a) Any assignment of this quotation, or of any contract resulting from this quotation, or of any of the rights or duties hereunder, by purchaser without the prior written consent of Clayton shall be void.
 b) The provisions of any contract resulting from this quotation are for the benefit of the parties hereto and not for any other person, except for authorized assignees.

13. FAIR LABOR STANDARD

Clayton represents that the goods to be delivered hereunder will be produced in compliance with all applicable requirements of Section 6, 7 and 12 of the Fair Labor Standards Act of 1938, as amended, and with lawful regulations and orders of the Administrator of the Wage and Hour Division issued under Section 14 thereof.

Should any provision of this contract be determined by a court of competent jurisdiction to be invalid, such shall in no way affect the validity or enforceability of any other provision hereof.

15. CAPTIONS

Paragraph captions are not a part hereof.

16. APPLICABLE LAW
The law of the State of California, without application of the laws or conflict of laws, shall govern the contract, and the contract shall be construed under such law, and Clayton shall have all rights and remedies afforded by the law of the State of California. The United Nations Convention for the International Sale of Goods shall not apply and is hereby rejected.

In the event either purchaser or Clayton brings any action or proceeding against the other, relating to the terms and conditions of this invoice, or to any order or sale resulting therefrom, then the prevailing party in such action or proceeding shall be paid by the other party his reasonable attorney's fees and costs of suit Incurred therein.



17477 HURLEY STREET, CITY OF INDUSTRY, CA 91744 TEL: (661_263-0923 btdominici19@gmail.com

To: Black Swan LLC

5612 Segovia Way

Bakersfield, CA 93306

Brian Klodji ATTN:

713-907-8752 M

bkolodji@sbcglobal.net

shipment, 10% balance net 30 days Subject to Credit Approval

Terms: 30% with Order, 60% prior to

FOB: Factory - Freight Prepay & add

Approx. Ship Date: 120-150 days After Receipt of Down Payment

and Acceptance of Order

Proposal 50 BHP Clayton Steam Generator Interlocking Skid Ref:

SIGMA FIRE G-50M-2-FMB STEAM GENERATOR

Rated Boiler Horsepower: 50 BHP

Equivalent Steam Output: 1,725 pph rated @1.98 mmbtu/hr.

(from and at 212°F feedwater and 0 psig steam) Design Pressure: 200 psig Operating pressure: 170 psig Safety Valve Set: 200 psig

Fuel Specification: Natural Gas (1,000 BTU/CF) Required Minimum Gas Pressure (at gas train inlet): 2 psig

Electrical Requirements: Voltage 460V/60hz/3ph Constructed per ASME Section I and National Electric Code

Hartford Tested and Inspected, GE GAP, FM Global and CSD-1 Compliant, UL Labeled

STEAM GENERATOR SHALL HAVE THE FOLLOWING COMPONENTS

MOUNTED ON A SINGLE FRAME:

Monotube Heating Coil with Integral Burner Base

Steam Separator, ASME stamped w/Safety Relief Valves

Natural Gas Fuel Train and Modulating Burner with 4:1 Turndown Ratio

Forced Draft Blower and ODP Motor Cooling Air Blower and ODP Motor

Positive Displacement Main Feedwater Pump and Variable Speed ODP Motor

Control Cabinet with Color touchscreen, Allen Bradley PLC Controls; Hour Meter and

Alarm Horn, Pilot Gas Regulator (2 to 60 psig supply pressure) Main Gas Regulator - Built-in (2 to 10 psig supply pressure)

Feedwater, Steam & Trap Pressure Gauges (locally mounted)

Continued on Page 2

THIS QUOTATION EXPIRES IN 30 DAYS AND IS SUBJECT TO THE TERMS AND CONDITIONS ATTACHED. SUCH TERMS AND CONDITIONS LIMIT ACCEPTANCE OF THIS QUOTATION TO THE TERMS CONTAINED HEREIN, EXCLUDES ANY ADDITIONAL TERMS PROPOSED BY THE PURCHASE, AND PROVIDES THAT ANY ORDER BY PURCHASER BASED ON THIS QUOTATION (OR ACCEPTANCE BY PURCHASER OF THE GOODS DESCRIBED HEREIN) SHALL CONSTITUTE AN UNCONDITIONAL ACCEPTANCE BY PURCHASER OF EACH AND ALL OF THE TERMS AND CONDITIONS CONTAINER HEREIN, AND A WAIVER BY PURCHASER OF ANY CONFLICTING OR ADDITIONAL PROVISIONS CONTAINED IN ANY OR PURCHASER'S DOCUMENTS RELATING TO THIS TRANSACTION.

NAME	TITLE	DATE
ВУ		
COMPANY		
ACCEPTANCE	THIS QUOTATION IS A	CCEPTED

SUBMITTED BY

Brian T. Dominici- Sr. Thermal Sales Engr. 3-4-2020 Brian.Dominici@claytonindustries.com 661-263-0923

ACCESSORIES INCLUDED WITH STEAM GENERATOR:

SE Super Economizer Coil Section. Provides additional heating surface to improve thermal efficiency. Supported by main heating section, includes outer shell and interconnecting piping.

Special fiber metal burner design for enriched air of 38% 02. Special refractory with ceramic lining for enhanced temperature. No guaranteed level on Nox.

99.5% Quality Fixed Vane Steam Separator in lieu of standard flat head Steam Separator. Design offers dryer steam output and improved separation during load swings.

Allen Bradley Micrologix 1400 PLC & Siemens Combustion Controller LMV37.

Ethernet or Modbus connectivity for remote access to display steam generator parameters.

Remote Start/Stop option consists of an additional relay, solenoid operated dump valve and programming of a post-fill timer circuit. A "Dry contact" signal is required from the customer to either remotely start or stop the unit. Unit must be set up for wet lay-up condition.

Installation Drain Valve Kit: includes Coil Gravity Drain, Coil Drain (back flow), Separator Drain, SE Section Drain and Trap Outlet Valve.

Feedwater Valve and Strainer Kit, includes shutoff valve and y-type strainer. Shipped loose for customer installation.

Continuous Bleed Blowdown Valve Kit, including shutoff valve, strainer and manually adjustable needle valve. Provides for continuous blow down of a small amount of highly concentrated trap return water. Shipped loose for installation by customer.

Steam Header Valve, globe type.

Clayton Back Pressure Regulator, for up to 250 psig design pressure. Shipped loose for mounting in customer steam piping.

Standard Drawing Package

FEEDWATER COMPONENTS

- 1 Vertical atmospheric feedwater tank (Hotwell), for feedwater pre-heating and chemical mixing, with trim and heater kits, and sparger tube(s) for trap and condensate connections. Trim kit includes water level sensor and solenoid valve, dial thermometer and water level gauge glass. Heater kit includes temperature switch and solenoid valve. Tank is sized for up to 50 connected BHP. Requires 110V/1/60 power.
- Blowdown Tank with automatic discharge temperature control valve, for collection and cooling of blow down water. Constructed per ASME, National Board stamped and approved.
- 1 Liquid Chemical Injection Pump, positive displacement with ceramic ball valves & Teflon seats. Pump capacity: 14.4 gpd, 115V/50-60hz/1ph
- 1 Chemical Start-Up Package

Clayton Model EFC60-1 Automatic Twin Water Softener. Capacity of 60,000 grains per mineral tank. System includes: Two (2) fiberglass mineral tanks, Y-strainer, brine tank, water meter, and electronic sequence controller. Unit regenerates based on actual make-up water usage. Softener is sized for 50 BHP, 100% condensate return rate, 12 hour regeneration cycle and 10 grains per gallon makeup water hardness. If these conditions change, softeners may need to re-quoted.

SigmaFire Generator / Feedwater System Skid Mounting

The steam generator and feedwater components will be mounted on an interconnecting skid frame. Option includes interconnecting steel piping and electrical wiring within the skid boundaries; installation valve kit and feedwater valve for the steam generator, feedwater sampling points, and auxiliary relay contact. Steam Generator and Feedwater components will be shipped in sections for re-assembly in field.

TOTAL	SFG50M-1-FMB	& E	W SYSTEM	ON	COMMON	INTERLOCKING	SKID:	\$106,785.00
Specia	l Burner							\$13,243.00
Total:							•	\$120,028.00

NOTES:

- Freight , Sales Tax, and any other applicable fees are extra.
- 2. Time required from placement of order to actual shipping date shown on first page is approximate. Actual shipping date will be based on receipt and acceptance of order, receipt of down payment and full engineering details to complete order entry. If approval drawings are required, shipment time will be from the date of receipt of final drawing approvals.
- 3. Pre-installation consultation and Site survey, Equipment check-out, Start-up and personnel training (at time and place of start-up) for up to two consecutive normal working days for installations within 150 miles of an authorized Clayton Service branch is included in the base price. (Normal working hours are 8:00 AM to 5:00 PM Monday through Friday). If the location is outside 150 miles, there will be additional charges for travel and living expenses. If additional labor time is required or if work is to be performed outside normal working hours, additional time would be billed at prevailing Clayton service rates.
- 4. Clayton's standard equipment is intended for indoor use only and must be protected from weather at all times. The steam generator and any associated water and chemical treatment equipment must be maintained above 45°F (7°C) at all times.

Total price includes:

Factory fire-testing; One (1) Set of Standard Plan-Installation and Electrical drawings, Installation, Feedwater Treatment, and Operation and Maintenance manuals. Documentation will be issued in electronic Adobe "PDF" file format. Drawings will also be issued in AutoCAD "DWG" format where available. CD will be supplied with final submittal. Paper copies require an additional charge per set.

Clayton warrants its equipment to be free from defects in material and/or workmanship for a period of 1 year from date of original installation, or 15 months from date of shipment from the factory, whichever is shorter. Equipment installed in the continental U.S. also includes CLAYTON'S FIVE (5) YEAR LIMITED COIL WARRANTY. This warranty covers defects in material and/or workmanship, and is based on an analysis by an independent engineering company for metallurgical analysis. These warranties pertain only to parts. Warranty labor is also included for a period of 90 days after commissioning or 180 days from shipment, whichever is less. See attached Terms and Conditions of Sales for further details.

CLAYTON INDUSTRIES STANDARD TERMS AND CONDITIONS OF SALE

All ("Goods") and services ("Services") furnished by Clayton Industries (the "Company") and all the Company's quotations, order acknowledgements, invoices and sales are conditioned on Customer's assent to these Standard Terms and Conditions of Sale (the "Terms"). These Terms may not be varied or waived except by expressed written agreement signed by an officer of the Company. The "Customer" shall include the entity identified on the face of this quotation, order acknowledgement or invoice and each of its agents.

- Acceptance, Modification, Revocation, Expiration: (a) The accompanying quotation (the "Order Document") is subject to modification, withdrawal, or revocation by the Company at any time prior to its unconditional acceptance by Customer. Except as expressly provided herein, this Order Document will expire automatically thirty (30) days after the date set forth on the face of this Order Document unless unconditionally accepted in writing prior thereto by Customer or otherwise extended in writing by the Company. Customer's order confirmation must indicate unconditional acceptance of this Order Document and be signed by a duly authorized agent of Customer. The resulting unconditional acceptance of the Order Document, including these Terms, by Customer (the "Agreement") shall comprise the entire agreement between Customer and the Company, and subject to Section 1(b), shall supersede all prior or contemporaneous understandings, agreements, negotiations, representations, warranties, and communications, both written and oral. These Terms prevail over any of Customer's general terms and conditions of purchase regardless whether or when Customer has submitted its purchase order or such terms. Fulfillment of Customer's order does not constitute acceptance of any of Customer's terms and conditions and does not serve to modify or amend these Terms. (b) Notwithstanding anything herein to the contrary, if a written contract signed by both parties is already in existence covering the sale of the Goods and Services covered hereby, the terms and conditions of said contract shall prevail to the extent they are inconsistent with this Agreement.
- Prices and Terms of Payment: All prices quoted herein supersede all prior quotations for similar Goods, and are FOB Origin (Company facility as set forth on the Order Document), Freight Prepaid and Add, unless otherwise expressly specified in writing by the Company. Payment shall be due in United States dollars according to the terms specified in writing on the invoice. Unless otherwise specified in writing by the Company, prices quoted herein do not include the amount of any sales, use, excise, manufacture, processing, ad valorem or other similar taxes, duties and charges of any kind imposed by any governmental or similar taxing authority on any amount payable by Customer. Customer agrees to pay any such taxes which are applicable to orders made pursuant to this quotation either to the Company or, if authorized by law, directly to the governmental or taxing authority, or in lieu thereof, to provide the Company with a tax-exemption certificate acceptable to the governmental or taxing authority. Acceptance of orders by the Company is subject to the approval of the Credit Department of the Company. If Customer fails to make payments in accordance with the Company's terms, or if, in the judgment of the Company, the financial condition of Customer at any time does not justify the terms of payment specified, the Company may require full payment in advance and may cancel any order then outstanding and receive reimbursement for cancellation charges incurred by the Company. At the option of the Company pro rata payments shall become due as shipments are made. The Company and Customer expressly agree that the unpaid balance shown on any invoice submitted by the Company to Customer for any Goods or Services furnished by the Company to Customer shall be due and owing in accordance with the terms of payment stated on the face of such invoice and if no said terms are stated, then thirty (30) days from the date of such invoice. Customer shall pay interest on all late payments at the lesser of the rate of 1.5% per month or the highest rate permissible under applicable law, calculated daily and compounded monthly. Customer shall reimburse the Company for all costs incurred in collecting any late payments, including, without limitation, attorneys' fees. In addition to all other remedies available under these Terms or at law (which the Company does not waive by the exercise of any rights hereunder), the Company shall be entitled to suspend the delivery of any Goods or performance of any Services if Customer fails to pay any amounts when due hereunder and such failure continues for TEN (10) days following written notice thereof. The Company shall be entitled to suspend the delivery of any Goods or performance of any Services if Customer fails to pay any amounts when due hereunder and such failure continues for TEN (10) days following written notice thereof. Customer shall not withhold payment of any amounts due and payable by reason of any set-off of any claim or dispute with the Company, whether relating to the Company's breach, bankruptcy or otherwise.
- 3. Shipments and Transportation Charges: Unless otherwise specified in writing by the Company, delivery will be made FOB Origin (Company facility as set forth on the Order Document), Freight Prepaid and Add. Unless specific instructions are given, the Company will decide how to pack and ship all Goods. Premium rate services such as rail, air express or air freight, will be utilized only when specified by Customer. Unless otherwise requested in writing, Goods shipped by parcel post will be insured, and the postal fee is added to the invoice price. No charge will be made for packing required by the transportation company for domestic shipments. Costs of special boxing, export boxing cartage to steamer, and transfer expenses will be added to the invoice price unless such charges are shown to be included in the prices quoted. The Company may, in its sole discretion, without liability or penalty, make partial shipments of Goods to Customer. Each shipment will constitute a separate sale, and Customer shall pay for the units shipped whether such shipment is in whole or partial fulfillment of Customer's purchase order.

4. **Delay of Delivery**: All shipping dates given by the Company are approximate only. Receipt of the Goods by Customer upon delivery shall constitute a waiver of all claims for delay. Delivery may be delayed where the Company has not promptly received all necessary information from Customer, and such shall constitute a delay

by

Customer.

When delivery is delayed by Customer, or at Customer's request: (I) the Company may, at its option, present the invoice for the full price of the Goods to Customer at any time and such shall then be immediately due and payable; (II) Customer shall also pay to the Company a storage and handling charge equal to 1.5% of the purchase price of the Goods per month, or any portion thereof; (III) Customer shall bear all risk of loss or damage to the Goods being held by the Company for Customer; and (IV) after six (6) months the Company may, at its option, declare such delay to be a cancellation of the order by Customer under Section 6 below. If delivery is delayed due to any cause beyond the Company's reasonable control, the date for shipment shall be extended during the continuance of such cause and for a reasonable time thereafter. If the Company's performance of its obligations under this Agreement is prevented or delayed by any act or omission of Customer or its agents, subcontractors, consultants, or employees, the Company shall not be deemed in breach of its obligations under this Agreement or otherwise liable for any costs, charges, or losses sustained or incurred by Customer, in each case, to the extent arising directly or indirectly from such prevention or delay.

- Cancellations, Alterations and Returns: Cancellation by Customer of any order for the Company's standard Goods (Goods which are described in the Company's current general literature and brochures and are ordered without alterations or modifications thereto) must be made in writing to the Company. Cancellation by Customer may not be made of any order for nonstandard Goods or of any order for standard Goods which are to be altered at Customer's request except with the written consent of the Company. Following any cancellation by Customer described in Section 4 or this Section 5 of this Agreement, Customer shall be liable to the Company for its reasonable expenses, losses and a profit attributable to the cancellation. Such losses and expenses shall include but not be limited to the profit (including reasonable overhead), which the Company would have made from full performance by Customer, together with any incidental damages provided by Section 2710 of the California Commercial Code. Any amounts due to the Company under this Section 5 for cancellations shall be in addition to those amounts due to the Company under Section 4 for delays. Following the Company's acknowledgment of any order made by Customer, Customer may alter or modify such order only upon the written consent of the Company and upon the payment of the Company's reasonable expenses, losses and a profit attributable to such alteration or modification. If this quotation provides for Goods to be custom-made for special application, the prices stated in the prior quotation (if any) and/or order acknowledgment (if any) are applicable only when correct tolerance requirements have been provided by Customer by print or sample part. If changes in fabrication or design are required by reason of incorrect tolerances furnished or deviations from samples submitted, the Company's reasonable expenses and losses attributable to such changes are added to the invoice price. No Goods may be returned to the Company without its prior written consent. Upon such consent, the Company may assess a reasonable restocking charge against Customer. All Goods returned must have all freight and transportation charges prepaid.
- Risk of Loss, Damage or Delay: The Company shall not be liable for any loss, damage, detention, or delay resulting from causes beyond its reasonable control, including but not limited to the acts or omissions of Customer, of Customer's customers or end-users, of God, or of a force majeure, or due to fire, casualty, civil or military disturbances or authority, labor disputes, wrecks or delays in transportation, changes in governmental laws or regulations, or difficulties beyond the Company's reasonable control in obtaining necessary labor, materials, fuels, components, or facilities. Unless otherwise specified in writing by the Company, and except as provided in Section 5, the Company's responsibility for loss or damage to Goods ceases upon delivery of the Goods in good order to Customer or Customer's agent FOB Origin (Company facility as set forth on the Order Document), Freight Prepaid and Add, and all Goods are shipped at the sole risk of Customer. Customer should carefully examine all Goods before accepting delivery and before signing the freight bill or delivery receipt. If the carrier delivers the Goods in bad order, Customer must insist on carrier's agents making a notation of the condition on the freight bill or delivery receipt and a copy of such must be sent to the Company within fifteen (15) calendar days of such delivery accompanied by a notice as is required in Section 10 providing further details specifying the condition of the Goods. Breach of this contract shall have no effect upon the provisions contained herein controlling the risk of loss or damage to the Goods covered hereby, and Customer hereby waives the provisions of Section 2-510 of the Uniform Commercial Code, which shall be of no force or effect.
- 7. Limited Warranty and Limitation of Remedy and Damages: (a) The Company warrants its Goods to be delivered hereunder to be free from defects in material and/or workmanship for a period of one (1) year from the date of original

installation by Customer or 15 months from the date of shipment from the factory, whichever is shorter (the "Warranty Period"). In the event such Goods are subjected to improper installation, misuse, negligence, alteration, modification, accident, improper repair, or are operated contrary to the Company's printed instructions, the Warranty is void and all liability of the Company shall immediately cease and the Company shall not be liable for any claims, losses, costs, expenses, and damages resulting therefrom. No representative of the Company has any authority to waive, alter, vary, or add to the terms hereof without prior approval in writing executed by two officers of the Company. (b) If within the Warranty Period, (1) the Customer promptly notifies the Company's Service Department, in writing, of any claimed defect, reasonably described, (2) the Company is given a reasonable opportunity after receiving the notice of breach of the warranty set forth in this Section 7 to examine such Goods, (3) if requested by the Company, Customer returns such part or parts as are claimed to be defective, transportation charges prepaid, to the Company, and (4) the Company reasonably verifies the claim that the Goods are defective, the Company will, at its option, repair such defective part or parts or replace the same with like or similar part or parts, provided however, that the Customer shall be responsible for all transportation and labor charges relating to the installation of any replacement part or removal of a defective part, except as noted in Section 7(c) below. (c) Notwithstanding Sections 7(a) and 7(b) above, for a period of 90 days after commissioning or 180 days after shipment, whichever is less (the "Service Warranty Period"), the Company will perform warranty service at no cost to the Customer, for any part deemed defective by the Company (the "Warranty Service"). The Warranty Service must be performed by an authorized service technician of the Company during the Company's normal working hours. Any Warranty Service performed on overtime, weekends or holidays will be billed at the Company's prevailing rates as in effect from time to time. This Warranty Service is only applicable to land based equipment installed in the U.S.A. or Canada and does not apply to replacement parts nor any accessories not purchased with a new the Company Steam Generator or Fluid Heater. The Warranty Service is only available during the Service Warranty Period. (d) The Company shall not be liable for a breach of the Warranty set forth in Section 7(a) if: (i) Customer makes any further use of such Goods after giving notice as provided in Section 7(b); (ii) the defect arises because Customer failed to follow the Company's oral or written instructions, including, without limitation, with respect to the storage, installation, commissioning, use or maintenance of the Goods, or in the event the Goods are otherwise subjected to improper installation, misuse, negligence, alteration, modification, accident, improper repair, or are operated contrary to the Company's printed instructions, or (iii) Customer alters or repairs such Goods without the prior written consent of the Company. The Company shall not be liable for a breach of the Warranty set forth in Section 7(a) upon the expiration of the Warranty Period. (e) In connection with providing the Warranty or the Warranty Service, the Company may in its discretion repair or replace any part with a reconditioned or reassembled part. (f) With respect to any part or parts supplied hereunder which are not manufactured by the Company (the "Third Party Parts"), the warranty of the manufacturer thereof, to the extent available, shall apply and be exclusive. Third Party Products are not covered by the Warranty as set forth in this Section 7. For the avoidance of doubt, THE COMPANY MAKES NO REPRESENTATIONS OR WARRANTIES WITH RESPECT TO ANY THIRD PRODUCT, INCLUDING ANY WARRANTY PARTY **(I)** MERCHANTABILITY; (II) WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE; (III) WARRANTY OF TITLE; OR (IV) WARRANTY AGAINST INFRINGEMENT OF INTELLECTUAL PROPERTY RIGHTS OF A THIRD PARTY, WHETHER EXPRESS OR IMPLIED BY LAW, COURSE OF DEALING, COURSE OF PERFORMANCE, USAGE OF TRADE, OR (g) THE FOREGOING WARRANTY IS THE SOLE AND OTHERWISE. EXCLUSIVE WARRANTY GIVEN BY THE COMPANY WITH RESPECT TO AND SERVICES. GOODS THERE ARE NO OTHER REPRESENTATIONS AND WARRANTIES, EXPRESS OR IMPLIED, GIVEN BY THE COMPANY AND THE COMPANY SPECIFICALLY DISCLAIMS ANY IMPLIED WARRANTY OR CONDITION OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, WHETHER EXPRESS OR IMPLIED BY LAW, COURSE OF DEALING, COURSE OF PERFORMANCE, USAGE OF TRADE, OR OTHERWISE. CUSTOMER CONFIRMS AND AGREES THAT IT HAS NOT RELIED ON ANY OTHER REPRESENTATIONS AND WARRANTIES MADE BY THE COMPANY OR ANY OTHER PERSON ON THE COMPANY'S BEHALF, EXCEPT AS SPECIFICALLY PROVIDED IN THIS SECTION 7. THE REMEDIES SET FORTH IN THIS SECTION 7 SHALL CUSTOMER'S SOLE AND EXCLUSIVE REMEDY AND THE COMPANY'S ENTIRE LIABILITY FOR ANY BREACH OF THE LIMITED WARRANTIES SET FORTH IN THIS SECTION 7.

8. **Patent Infringement:** The Company shall conduct at its own expense, the entire defense of any claim, suit or action alleging that, without further combination or alteration, the use or resale by Customer of the Goods sold or delivered hereunder directly infringes any United States patent, but only on the conditions that (a) the Company receives prompt written notice of such claim, suit or action and full opportunity and authority to assume the sole defense thereof, including settlement and appeals, and all information available to Customer and defendant for such defense; (b) said Goods are made according to a specification or design furnished by the Company or, if a process patent is involved, the process performed by the Goods is recommended in writing by the Company; (c) the claim, suit or action is brought against Customer or

one expressly indemnified by Customer. Provided all of the foregoing conditions have been met, the Company shall, at its own expense, either settle said claim, suit or action, or shall pay all damages excluding consequential damages, and costs awarded by the court therein. If infringement claim or if the use or resale of such Goods is finally enjoined, Customer will permit the Company, at the Company's option to, (I) procure for defendant the right to use or resell the Goods, (II) replace them with equivalent, noninfringing Goods, (III) modify them so they become noninfringing but equivalent, or (IV) remove them and refund the purchase price (less a reasonable allowance for use, damage or obsolescence). The foregoing states the entire obligation of the Company with respect to infringement of patents. If a claim, suit or action is based on design or specification furnished by Customer or on the performance of a process not recommended in writing by the Company, or on the use or sale of the Goods sold or delivered hereunder in combination with other Goods not sold or delivered to Customer by the Company, Customer shall indemnify, defend and hold the Company harmless from any and all losses resulting therefrom, including reasonable attorneys' fees and costs.

Security Interest: As collateral security for the payment of the purchase price of the Goods, Customer hereby grants to the Company a lien on and security interest in and to all of the right, title and interest of Customer in, to and under the Goods, wherever located, and whether now existing or hereafter arising or acquired from time to time, and in all accessions thereto and replacements or modifications thereof, as well as all proceeds (including insurance proceeds) of the foregoing (the "Collateral"). The parties intend for this Agreement to also constitute a security agreement under the Uniform Commercial Code, and the security interest granted under this provision constitutes a purchase money security interest under the Uniform Commercial Code of the state in which the Goods were delivered to the Customer. Until the full amount owed to the Company is paid, the Collateral shall not be relocated from its initial installation location with Customer, shall be insured against all losses in an amount not less than the greater of \$1 million per occurrence or the purchase price of the Goods and naming the Company as an additional insured under such policy, all taxes and other charges there on shall be promptly paid when due, shall be accessible at all reasonable times for inspection by the Company or the Company's agents, and shall be properly maintained. The Company or its agents shall have the right to conduct such inspections on the premises where the Collateral is located. Customer shall reimburse the Company for all expenses including reasonable attorney fees and legal expenses, incurred by the Company in seeking to collect any amounts owed to the Company, in defending the priority of the Company's security interest in the collateral, or in pursuing any of the Company's rights or remedies hereunder. Upon request, Customer shall execute a financing statement(s) (Form UCC-1 or equivalent as in effect from time to time) or other documents, evidencing the Company's security interest in the Collateral. Upon the default of Customer, the Company shall have, in addition to all other remedies provided by law, the right to take possession, without judicial process in any manner which does not breach the peace, of the Collateral. Upon the Company's request, Customer shall assemble such Goods at Customer's own expense and make them available to the Company at Customer's own expense at a place to be designated by the Company which is reasonably convenient to both parties.

Acceptance of Goods, Cure of Defects: Any Goods delivered pursuant to this Agreement shall be deemed finally inspected and irrevocably accepted by Customer fifteen (15) calendar days after receipt thereof by Customer unless Customer, within said 15-day period, gives written notice of rejection or of revocation of acceptance to the Company. Said notice shall specify all claimed defects and nonconformities, and the failure to specify any defect or nonconformity shall constitute a waiver of that defect or nonconformity. Upon receipt of Customer's notice of rejection or of revocation of acceptance, the Company shall have a reasonable time in which to cure the defect or nonconformity claimed by Customer even though such reasonable time extends beyond the delivery date specified by the Company. Customer shall make the Goods available to the Company during such period. In the event the Company is able to reasonably cure said defects or nonconformities, Customer's prior notice of rejection or of revocation of acceptance shall be of no legal force of effect, and the Goods shall be deemed fully inspected and irrevocably accepted by Customer fifteen (15) days after such cure by the Company unless Customer, within said 15-day period gives written notice to the Company as specified in this Section 10.

LIMITATION OF LIABILITY: THE COMPANY'S LIABILITY UNDER ITS CONTRACT WITH CUSTOMER IS EXPRESSLY LIMITED TO ITS WARRANTY OBLIGATIONS SET FORTH HEREINABOVE IN THESE TERMS AND CONDITIONS. IN NO EVENT SHALL THE COMPANY BE LIABLE FOR, NOR SHALL CUSTOMER BE ENTITLED TO COLLECT, ANY INDIRECT, SPECIAL, INCIDENTAL, EXEMPLARY, CONSEQUENTIAL OR PUNITIVE DAMAGES, INCLUDING WITHOUT LIMITATION LOSS OF PROFITS OR REVENUE, LOSS OF DATA, LOSS OF USE, COST OF REWORK, LOSS DUE TO PERSONAL INJURY OR REPUTATION, LOSS OF EFFICIENCY, LOSS OF CUSTOMERS, LOSS OF BUSINESS, OR LOSSES DUE TO DOWNTIME, LATENESS, OR UNAVAILABILITY OF GOODS OF CUSTOMER, REGARDLESS OF WHETHER SUCH DAMAGES WERE FORESEEABLE, WHETHER OR NOT THE COMPANY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES, AND NOTWITHSTANDING THE FAILURE OF ANY AGREED OR OTHER REMEDY OF ITS ESSENTIAL PURPOSE. UNDER NO CIRCUMSTANCES SHALL THE AGGREGATE AMOUNT OF DAMAGES COLLECTED BY CUSTOMER FOR ANY CLAIM

OF ANY KIND, WHETHER ARISING OUT OF OR RELATED TO BREACH OF CONTRACT, TORT (INCLUDING NEGLIGENCE), OR THE PERFORMANCE OR BREACH HEREOF BY THE COMPANY, EXCEED THE AGGREGATE AMOUNTS PAID TO THE COMPANY BY CUSTOMER ALLOCABLE TO THE GOODS PURCHASED FROM THE COMPANY HEREUNDER GIVING RISE TO SUCH CLAIM.

- Indemnification: Customer shall defend, indemnify, and hold harmless the Company, its subsidiaries, affiliates, successors, and assigns, and its and their respective directors, officers, shareholders, employees, and contractors (collectively, the "Indemnified Parties") from and against any losses, costs, expenses (including, without limitation, import and export customs fees, reasonable attorneys' and professional fees, and the cost of pursuing claims against any insurance providers), damages, liabilities, and claims of every character whatsoever suffered by the Indemnified Parties or asserted against the Indemnified Parties by third parties (collectively, "Liabilities") for property damage, bodily injury or death, or economic or environmental damages directly or indirectly arising from the Goods provided by the Company hereunder (the "Goods") or any products into which the Goods are integrated (the "Final Products"), including, but not limited to, (i) any misuse or modification of the Goods or the Final Products by Customer, its subsidiaries, affiliates, successors, and assigns, and its and their respective directors, officers, shareholders, employees, contractors, customers, end-users, agents, and representatives (collectively, the "Indemnifying Parties"), (ii) any act or omission by the Indemnifying Parties with respect to the Goods or the Final Products in contravention of safety procedures or instructions provided by the Indemnified Parties (the "Instructions"), (iii) the failure of the Indemnifying Parties to use, store, install, construct, operate, maintain, or repair the Goods or the Final Products in accordance with the Instructions, and (iv) any noncompliance or contravention of applicable law or regulation by the Indemnifying Parties.
- 13. **Termination**: In addition to any remedies that may be provided under these Terms, the Company may terminate this Agreement with immediate effect upon written notice to Customer, if Customer: (a) fails to pay any amount when due under this Agreement; (b) has not otherwise performed or complied with any of these Terms, in whole or in part; or (c) becomes insolvent, files a petition for bankruptcy or commences or has commenced against it proceedings relating to bankruptcy, receivership, reorganization, or assignment for the benefit of creditors.
- 14. Compliance with Law: Customer shall comply with all applicable laws, regulations and ordinances. Customer shall maintain in effect all the licenses, permissions, authorizations, consents, and permits that it needs to carry out its obligations under this Agreement. Customer shall comply with all export and import laws of all countries involved in the sale of the Goods and Services under this Agreement or any resale of the Goods by Customer. Customer assumes all responsibility for shipments of Goods requiring any non-United States government import clearance.
- 15. Confidential Information: All non-public, confidential or proprietary information of the Company, including but not limited to, specifications, samples, patterns, designs, plans, drawings, documents, data, business operations, customer lists, pricing, discounts, or rebates, disclosed by the Company to Customer, whether disclosed orally or disclosed or accessed in written, electronic or other form or media, and whether or not marked, designated, or otherwise identified as "confidential" in connection with this Agreement is confidential, solely for the use of performing this Agreement and may not be disclosed or copied unless authorized in advance by the Company in writing. Upon the Company's request, Customer shall promptly return all documents and other materials received from the Company. The Company shall be entitled to injunctive relief for any violation of this Section. This Section does not apply to information that is: (a) in the public domain; (b) known to Customer at the time of disclosure; or (c) rightfully obtained by Customer on a non-confidential basis from a third party.
- 16. **Third Parties:** Any assignment of this quotation, or of any Agreement resulting from this quotation, or of any of the rights or duties hereunder, by Customer without the prior written consent of the Company shall be void. The provisions of any contract resulting from this quotation are for the benefit of the parties hereto and not for any other person, except for authorized assignees.

- 17. **Fair Labor Standard**: The Company represents that the Goods to be delivered hereunder will be produced in compliance with all applicable requirements of Section 206, 207 and 212 of the Fair Labor Standards Act of 1938, as amended, and with lawful regulations and orders of the Administrator of the Wage and Hour Division issued under Section 214 thereof.
- 18. **Severability**: If any provision or provisions of this Agreement shall be held to be invalid, illegal or unenforceable for any reason whatsoever: (a) the validity, legality and enforceability of the remaining provisions of this Agreement (including, without limitation, each portion of any section, paragraph or sentence of this Agreement containing any such provision held to be invalid, illegal or unenforceable, that is not itself invalid, illegal or unenforceable) shall not in any way be affected or impaired thereby and shall remain enforceable to the fullest extent permitted by law; (b) such provision or provisions shall be deemed reformed to the extent necessary to conform to applicable law and to give the maximum effect to the intent of the parties hereto; and (c) to the fullest extent possible, the provisions of this contract (including, without limitation, each portion of any section, paragraph or sentence of this contract containing any such provision held to be invalid, illegal or unenforceable, that is not itself invalid, illegal or unenforceable) shall be construed so as to give effect to the intent manifested thereby.
- 19. **Notices**: All notices, requests, consents, claims, demands, waivers, and other communications hereunder (each, a "**Notice**") shall be in writing and addressed to the parties at the addresses set forth on the face of this Agreement or to such other address that may be designated by the receiving party in writing. All Notices shall be delivered by personal delivery, nationally recognized overnight courier (with all fees pre-paid), facsimile (with confirmation of transmission), or certified or registered mail (in each case, return receipt requested, postage prepaid). Except as otherwise provided in this Agreement, a Notice is effective only (a) upon receipt of the receiving party, and (b) if the party giving the Notice has complied with the requirements of this Section.
- 20. Assignment: Customer shall not assign any of its rights or delegate any of its obligations under this Agreement without the prior written consent of the Company. Any purported assignment or delegation in violation of this Section is null and void. No assignment or delegation relieves Customer of any of its obligations under this Agreement.
- 21. Waiver: No waiver by the Company of any of the provisions of this Agreement is effective unless explicitly set forth in writing and signed by the Company. No failure to exercise, or delay in exercising, any right, remedy, power or privilege arising from this Agreement operates, or may be construed, as a waiver thereof. No single or partial exercise of any right, remedy, power or privilege hereunder precludes any other or further exercise thereof or the exercise of any other right, remedy, power or privilege.
- 22. Force Majeure: The Company shall not be liable or responsible to Customer, nor be deemed to have defaulted or breached this Agreement, for any failure or delay in fulfilling or performing any term of this Agreement when and to the extent such failure or delay is caused by or results from acts or circumstances beyond the reasonable control of the Company including, without limitation, acts of God, flood, fire, earthquake, explosion, governmental actions, war, invasion, or hostilities (whether war is declared or not), terrorist threats or acts, riot, or other civil unrest, national emergency, revolution, insurrection, epidemic, lockouts, strikes or other labor disputes (whether or not relating to either party's workforce), or restraints or delays affecting carriers or inability or delay in obtaining supplies of adequate or suitable materials, materials or telecommunication breakdown or power outage.
- 23. **Captions**: Section captions are not a part hereof.
- 24. **Applicable Law**: Unless otherwise expressly provided in these Terms and Conditions, the law of the State of California shall govern the contract, and the contract shall be construed under such law, and the Company shall have all rights and remedies afforded by the law of the State of California.
- 25. **Attorneys' Fees**: In the event either Customer or the Company brings any action or proceeding against the other, relating to the terms and conditions of this invoice, or to any order or sale resulting therefrom, then the prevailing party in such action or proceeding shall be paid by the other party its reasonable attorneys' fees and costs of suit incurred therein.
