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SPECIFICATIONS FOR CLEAN BURN COIL TUBE BOILER
MODEL CB-500-CTB

PART 1 – GENERAL

1.1 **DEFINITIONS:** Throughout this bid specification the word "shall" appears frequently. The word "shall" indicates a **mandatory requirement** as per the Codes and Regulations that are listed in Part 1 – Section 1.4 through 1.4.4 of this bid specification as applicable.

1.2 **REQUIREMENTS:** General provisions of the purchase specifications, including general and other conditions, delivery requirements, shipping and demurrage charges will be under separate cover and shall apply.

1.3 **SCOPE:** This bid specification covers but is not limited to the furnishing of a CB-500-CTB, 500,000 BTU/hr (input) Coil Tube Boiler Package. This package shall include the following:

- One (1) CB-500-CTB 500,000 BTU/hr (input) low mass boiler (370,000BTU/hr output)
- One (1) CB-551-H5 used-oil firing burner
- One (1) Honeywell # L4006H-1004 100 to 240 ^{o}F high limit aquastat with manual reset button
- One (1) Honeywell # L4006H-2148 100 to 200 ^{o}F operating aquastat
- Two (2) Honeywell # 123870A ¾" NPT well adapters
- One (1) ITT McDonnell & Miller # 750P-MT-120 electronic low water cut-off with the PA-800 remote probe (included) with manual reset and testing buttons
- One (1) ITT McDonnell & Miller # FS4-3 or Taco flow switch and includes a stainless steel paddle
- One (1) Honeywell # AT40C 115 vac transformer with a 24 vac output coil
- One (1) Honeywell # R8222D 120 vac relay with a 24 vac coil
- One (1) Honeywell # ST82A spst 10 minute timed delayed (cut-off) circulator relay
- One (1) Dpdt (on / on) 125 vac / 50-60 hz / 1 ph toggle switch rated @ 15 amps
- One (1) Conbraco # 10-301-05 30 psig 550,000 BTU/hr rated pressure relief valve
- One (1) $3^{1}/_{4}$" diameter ½" NPT horizontal mounted tridicator
- One (1) Ceramic target (installed on the rear door of appliance)

- One (1) Ceramic combustion chamber sleeve
- One (1) Combustion chamber sleeve mounting stand
- One (1) Suntec used-oil pump assembly (Refer to part 2, Section 2.5 for the listed pump options)
- One (1) Lenz # DH750-100 canister filter with a washable 100-mesh stainless steel screen filter element
- One (1) Oil vacuum gauge
- One (1) ¾" x ¾" in-line brass check valve
- One (1) ¾" in-line washable 50-mesh stainless steel screen check valve filter element
- One (1) Watts # 700014 1½" fip x 1½" fip bronze swing check valve
- One (1) Field Type 'M' 9" barometric damper control
- One (1) 9" x 10" reduced collar (for barometric damper)
- One (1) 10" 24-gauge galvanized sheet metal cap
- One (1) Field Controls DI-3 Draft Inducer
- One (1) CB-500-CTB Operator's Manual
- Burner oil line and airline components
- Miscellaneous piping, valves, and fittings (boiler installed)
- Miscellaneous bolts and fittings for assembly / installation of the appliance

Note: This is the standard package for the CB-500-CTB Coil Tube Boiler Package. You must order the mounting stand assembly, the circulator, and the stackable adapter bracket kit separately. (Refer to Part 2 – Sections 2.1.4, 2.1.5, and 2.1.6.)

1.4 **CODES AND REGULATIONS:** The installation of this appliance shall be made in accordance with the manufacturer's instructions, as well as in accordance with all Federal, State, Regional, or Local Laws and / or Regulations acceptable to the Authority Having Jurisdiction (AHJ) and shall be accomplished only by a qualified, certified, and competent heating technician experienced in making such installations as per NFPA 31 – Chapter 4 – Sections 4.3.2 and 4.3.3 and the Codes and Regulations that are listed in Part 1 – Sections 1.4 through 1.4.4 of this bid specification as applicable.

1.4.1 The design, materials and workmanship of the appliance, burner unit, and the various other accessories furnished by Clean Burn, Inc., as well as the installation of the appliance, shall fully comply with the requirements of UL Standard 296A (Underwriter's Laboratories File # MH 15393 and / or Underwriter's Laboratories of Canada File # CMP243) and NFPA 31 – Chapter 12 – Sections 12.1 through 12.4.3, ASME Section IV – Boiler Code for Pressure Vessels Manual, and the ASME Controls and Safety Devices Manual (CSD-1).

1.4.2 The installation shall fully comply with the following NFPA Codes: 30 – Flammable and Combustible Liquids, 30A – Motor Fuel Dispensing Facilities and Repair Garages, 31 – Standard for the Installation of Oil-Burning Equipment, 70 – National Electrical Code, 88A – Standard for Parking Structures, 88B – Standard for Repair Garages, and 211 – Standard for Chimneys, Fireplaces, Vents, and Solid-Fuel Burning Appliances as applicable.

1.4.3 The installation shall fully comply with the following International Codes: International Building Code, International Mechanical Code, International Fire Code, and the International Fuel Gas Code as applicable.

1.4.4 The installation shall fully comply with the following CAN / CSA Standards (when installing the appliance in Canada): B139-00 (approved October 2001) – Installation Code for Oil-Burning Equipment, B140.0-M87 (reaffirmed 2001) – General Requirements for Oil-Burning Equipment, B140.7.2-1967 (reaffirmed 1998), and C22.1-02 – Canadian Electric Code – Part 1 as applicable.

1.5 **RIGGING AND UNLOADING:** Vendors shall deliver to the site all equipment, components, and devices specified herein. Rigging and / or off-loading will be the responsibility of the purchaser or the purchasers designated agent.

PART 2 – PRODUCT

2.1 **BOILER:** The appliance shall be shipped assembled as a packaged, low mass coil tube boiler, suitable for firing used-oils and #2 - #5 heating fuels.

2.1.1 The appliance shall include a ceramic combustion chamber sleeve, a combustion chamber sleeve mounting stand, and a ceramic combustion chamber target.

2.1.2 The appliance shall be UL / ULC listed and tested to burn the used-oils as per NFPA 31, Chapter 12, Section 12.4.1, 12.4.2, and 12.4.3.

2.1.3 The appliance shall be complete with one used-oil burner assembly, one used-oil pump assembly, and all devices and controls required for safe and efficient operation of the appliance as per ASME CSD-1.

2.1.4 The appliance does not come with a mounting stand assembly as a standard item. When ordering the appliance, you must also order a mounting stand assembly (CB Part # 90206).

2.1.5 The appliance does not come with a circulator installed on the appliance as a standard item. When ordering the appliance, you must also order a circulator assembly:

- TACO 1400-50/2 circulator 37 gpm @ 22 ft. head (CB Part # 35130)

2.1.6 When installing more than one appliance on the job site, you can stack this appliance two high by ordering the stacking adapter bracket kit (CB Part # 11578).

2.2 **CONSTRUCTION:** The appliance shall be of standard construction low mass coil tube design, and it shall be built in accordance with the ASME Section IV – Boiler Code for Pressure Vessels.

2.2.1 The appliance shall be constructed to operate as a three-pass heat exchanger design.

2.2.2 The combustion chamber and shell shall be made from a combination of 11-gauge, 12-gauge, and 14-gauge steel.

2.2.3 The appliance shall have a combustion chamber liner and a liner protector that shall be made from 16-gauge 304 stainless steel.

2.2.4 The appliance shall have a ceramic combustion chamber sleeve and mounting stand and a ceramic combustion target.

2.2.5 A 3" diameter opening, with a spring closing flame observation port door shall be provided at the front of the appliance on the front swing out door. This port shall be located on the left side of the front swing out door just above and to the left of the burner so that an inspection of the combustion chamber area can be made, both when the appliance is in operation or at rest.

2.2.6 The front door shall be of a hinged, swing out design and shall be large enough to permit access for the inspection and maintenance of the coil tube assembly, ceramic combustion sleeve and mounting stand, and the ceramic target.

2.2.7 The rear door shall be of a bolt on type and include the ceramic target.

2.2.8 The front and rear door panels shall be insulated with a 2" thick piece of 2,300 ^{o}F ceramic fiberboard approved insulating material.

2.2.9 The appliance shall use an approved insulation gasket material of 2,300 ^{o}F to seal all assembled sections of the appliance, and the entire appliance shall be insulated and sealed tight to prevent the escape of heat and combustion gases.

2.2.10 The coil tube shall be fabricated from 195' long seamless cold drawn 1½" diameter Schedule 40 SA 106B carbon steel tubing and shall carry the ASME 'H' Stamp Certification and the National Board Number.

2.2.11 Each coil tube assembly shall be coiled as a single unit and hydro tested as per the requirements of ASME Section IV – Boiler Code for Pressure Vessels.

2.2.12 The coil tube assembly shall be removable from the appliance to facilitate inspection of the coil tube assembly or for the repair and / or replacement of the coil tube assembly.

2.2.13 The appliance shall be provided with a wrap around 22-gauge steel jacket with a baked on powder coat finish.

2.2.14 The size, capacity, and operation of the appliance shall be designed as shown in the following:

- 500,000 BTU/hr input rating
- 370,000 BTU/hr output rating
- 70 psig tested design pressure
- 30 psig maximum operating pressure
- 97 square feet of heating surface
- 20 gallon water volume capacity
- 37 gpm design water flow rate @ 22 feet of head
- 3.57 gph oil consumption
- Dedicated spst 20 amp electrical circuit requiring the installation of a 12/2 copper power supply wire rated @ 115 vac / 60 hz / 1 ph (standard)
- Dedicated spst 30 amp electrical circuit requiring the installation of a 10/2 copper power supply wire rated @ 115 vac / 60 hz / 1 ph (optional – used when installing draft inducers or on-board compressors)
- 2.5 cfm compressed air requirement @ 25 psig
- 10" stack size
- Cabinet dimensions (from burner end without the burner, boiler stand, or accessories installed) – 73" long x 44¼" wide x 41¾" high
- Overall dimensions (from burner end with the burner, boiler stand, and all accessories installed) – 85½" long x 51" wide x 60¾" high
- Approximate shipping weight – 1,760 lbs

2.3 **INSTALLATION:** The appliance shall be installed in an approved boiler room as per the Codes and Regulations that are listed in Part 1 – Sections 1.4 through 1.4.4 of this bid specification as applicable.

2.3.1 The appliance shall be installed and mounted on a level foundation base capable of supporting and distributing the weight of the appliance as per the Codes and Regulations that are listed in Part 1 – Sections 1.4 through 1.4.4 of this bid specification as applicable.

2.3.2 The appliance shall be installed and mounted on floors of non-combustible construction (concrete) only as per the Codes and Regulations that are listed in Part 1 – Sections 1.4 through 1.4.4 of this bid specification as applicable.

2.3.3 The appliance shall not be raised above the floor level (except for the approved mounting stand assembly), suspended or hung from the ceiling, installed on an elevated platform or stand, or placed over top of any equipment, an office space, parts room, etc., or installed in any other manner other than as directed by the Codes and Regulations that are listed in Part 1 – Sections 1.4 through 1.4.4 of this bid specification as applicable.

2.3.4 The appliance shall be supplied with the proper amount of combustion air to permit the satisfactory combustion of the oil, the proper venting of the combustion gases, and to maintain a safe ambient temperature within the space that the appliance is installed in as per the Codes and Regulations that are listed in Part 1 – Section 1.4 through 1.4.4 of this bid specification as applicable.

2.3.5 When installing this appliance in an unconfined space, the minimum amount of combustion air supplied to this appliance shall be from one permanent opening, installed within 12" of the ceiling of the room, totaling 110 square inches at a rate of 268 cfm of free air for a single appliance application as per the Codes and Regulations that are listen in Part 1 – Section 1.4 through 1.4.4 of this bid specification as applicable. When installing more than one appliance into the same unconfined space, you must adjust these minimum requirements to accept all of the appliances within that space.

2.3.6 When installing this appliance in a confined space, the minimum amount of combustion air supplied to this appliance shall be from two permanent openings, one opening installed within 12" of the ceiling of the room and one opening installed within 12" of the floor of the room, with each opening totaling 138 square inches at a rate of 537 cfm of free air for a single appliance application as per the Codes and Regulations that are listed in Part 1 – Section 1.4 through 1.4.4 of this bid specification as applicable. When installing more than one appliance into the same confined space, you must adjust these minimum requirements to accept all the appliances within that space.

2.3.7 When installing louvers and grills to bring the combustion air into the room and the actual free area of the louver or grill is not known, it is understood that wooden louvers and grills will have a free area of 25% while metal louvers and grills will have a free area of 75% as per the Codes and Regulations that are listed in Part 1 – section 1.4 through 1.4.4 of this bid specification as applicable.

2.3.8 All louvers and grills, regardless of the material that they are made from, shall be fixed in the open position, or be interlocked with the appliance(s) so that they will open automatically during the operation of the appliance(s). The interlock must be placed on the driven member as per ASME CSD-1 – Part CG – Section CG-260-b and the Codes and Regulations that are listed in Part 1 – Section 1.4 through 1.4.4 of this bid specification as applicable.

2.3.9 When installing a mechanical fan assembly to provide the combustion air, the fan shall be interlocked with the appliance's burner(s) so that combustion air is proven before and during the operation of the appliance(s) as per ASME CSD-1 – Part CG – Section CG-260-c and the Codes and Regulations that are listed in Part 1 – Section 1.4 through 1.4.4 of this bid specification as applicable.

2.3.10 The combustion air shall be supplied into this boiler room as per the requirements of ASME-CSD-1 – Part CG – Sections CG-260-a, 260-b, and 260-c and the Codes and Regulations that are listed in Part 1 – Section 1.4 through 1.4.4 of this bid specification as applicable.

2.3.11 The appliance shall be installed to fit into the space available with the following minimum clearances from combustible surfaces and / or for the servicing of the appliance:

- Top – 18”
- Front (burner) side – 48”
- Rear (stack) side– 58”
- Left side – 6” (36” may be required by your local code)
- Right side – 36”
- Stack – 18”
- Bottom – 6”
- All supply and return piping – 1 1/2”

2.3.12 Installation, operating, and maintenance permits may be required by the Authority Having Jurisdiction (AHJ). It is the responsibility of the purchaser, designated agent, contractor, or installer of the appliance to check with the AHJ as to the proper procedures to follow for the completion of this installation.

2.3.13 Installation inspections of the finished job may also be required by the Authority Having Jurisdiction (AHJ). It is the responsibility of the purchaser, designated agent, contractor, or installer of the appliance to check with the AHJ as to the proper procedures to follow for the completion of this installation.

2.3.14 On-site certification of the appliance may be required by the Authority Having Jurisdiction (AHJ). It is the responsibility of the purchaser, designated agent, contractor, or installer of the appliance to check with the AHJ as to the proper procedures to follow for the completion of this installation.

2.3.15 It is the responsibility of the purchaser, designated agent, contractor, or installer of the appliance to check with the Authorities Having Jurisdiction (AHJ) as to the proper procedures to follow for the completion of this installation.

2.4 **USED-OIL BURNER:** Clean Burn, Inc. shall supply one complete used-oil burner, factory assembled, and suitable for the burning of used-oils.

2.4.1 The used-oil burner shall be UL / ULC listed and tested to burn the following used-oils:

- # 2, # 4, & # 5 fuel oils
- Used crankcase oils up to SAE 50 weight
- Used automatic transmission fluids
- Used hydraulic oils

2.4.2 The used-oil burner shall be constructed, wired, and fire tested by Clean Burn, Inc.

2.4.3 The used-oil burner shall be shipped loose for field mounting and packaged in a separate carton.

2.4.4 Clean Burn, Inc. shall manufacture the used-oil burner with quantity, capacity, and ratings as per schedule.

2.4.5 The used-oil burner shall be equipped with a high resistance, flame retention, all stainless steel firing head, with a conical stainless steel diffuser, and shall operate with no moving parts. The flame pattern shall be such that impingement will not occur on the chamber walls at any load within the specified range of operating conditions.

2.4.6 The used-oil burner nozzle assembly shall contain the oil nozzle, the nozzle adapter, the nozzle heater and thermostat, and the single piece electrode and shall be made in such a way as to allow the nozzle assembly to be removable from the burner as a single unit.

2.4.7 The used-oil burner shall be equipped with both oil and air safety devices to prevent the operation of the burner should either of these items fail during their normal function. These devices shall be controlled by the oil primary control and will stop the operation of the burner upon flame or air failure.

2.4.8 The used-oil burner shall be controlled by a flame sensor device (a cadmium sulfide cell) which will stop the burner when a flame failure occurs.

2.4.9 The flame sensor shall be connected to the primary safety control that shall fail in an open position and "lock-out" the control.

2.4.10 The primary safety control shall require the manual resetting of the safety switch anytime the burner has a no-oil or no-spark (ignition) condition.

2.4.11 If the primary safety control fails while in operation but the flame has been established and proven, the primary safety control shall be of a recycling type which will allow the burner up to three retries for ignition before the control will "lock-out".

2.4.12 The primary safety control shall be completely wired and tested by the manufacturer for this safety function.

2.4.13 Each used-oil burner shall be fully in accord with the requirements of and approved by Underwriter's Laboratories and Underwriter's Laboratories of Canada.

2.4.14 The used-oil burner shall be factory fabricated and be complete with the following:

- One (1) Single burner / fan housing assembly with side mounted combustion air inlets
- One (1) Stainless steel flame retention head
- One (1) Hinged swing out burner mounting bracket
- One (1) 4-wire power cord disconnect assembly with connector plug and receptacle
- One (1) Burner motor with a $1/10^{th}$ hp motor @ 3,000 rpm TENV, DP, PSC, sealed, ball bearing, ccw-se rotation, N frame, stud mounted, 3.3" diameter motor, with a 7.5 uf (mfd) / 370 vac capacitor
- One (1) Integral squirrel cage draft fan
- One (1) Set of dual inner /outer combustion draft control plates
- One (1) Heated oil block assembly
- One (1) 400 watt thermostat controlled block heater
- One (1) 120 ^{o}F block heater-proving switch
- One (1) 140 ^{o}F block thermostat
- One (1) Air regulator
- One (1) Oil solenoid
- One (1) Air solenoid
- One (1) Internally motor mounted centrifugal proving switch
- One (1) Air pressure proving switch
- One (1) Carlin # 41000B, 14,000 vac electric igniter
- One (1) Carlin # 50200-02, 30 second safety timing, solid-state primary control with manual reset safety switch
- One (1) Honeywell # C-554A cadmium sulfide flame sensor
- One (1) Single piece direct spark igniter
- One (1) Thermostat controlled heated nozzle adapter
- One (1) L-130 nozzle adapter thermostat
- One (1) 140 watt thermostat controlled nozzle heater
- One (1) Delavan 9-28 nozzle
- One (1) 0-15 psig oil pressure gauge

- One (1) 0-60 psig air pressure gauge
- One (1) Run time hour meter
- One (1) Green indicator light for power on indication
- One (1) Amber indicator light for oil pump on indication

2.5 **USED-OIL FUEL SYSTEM:** The CB-500-CTB Coil Tube Boiler is available with two choices of oil pumps that are both rated for use with used-oil applications. The pumps will have the following description:

Option # 1 – Metering Pump Assembly

- One (1) Suntec model A2RA-7710 used-oil pump assembly with a 1/20th hp motor TENV, DP, PSC, sealed, ball bearing, ccw-se rotation, 100 AC frame, parallel shaft, close coupled stud mounted, 3.42" diameter gear motor, with a 6 uf (mfd) / 250 vac capacitor
- One (1) Oil pump relief valve assembly
- One (1) Lenz # DH750-100 canister filter with a washable 100-mesh stainless steel screen filter element
- One (1) Oil vacuum gauge
- One (1) ¾" x ¾" in-line brass check valve
- One (1) ¾" in-line washable 50-mesh stainless steel screen filter element for the check valve.

Option # 2 – Pressure Style Pump Assembly

- One (1) Suntec model J4NB-A1000G used-oil pump assembly with a 1/6th hp motor @ 1,725 rpm, TENV, DP, ball bearing, ccw-se rotation, 48N frame, parallel shaft, close coupled, 7 ¼" bolt hole mount (center to center), 5 ½" diameter motor
- One (1) Lenz # DH750-100 canister filter with a washable 100-mesh stainless steel screen filter element
- One (1) Oil vacuum gauge
- One (1) ¾" x ¾" in-line brass check valve
- One (1) ¾" in-line washable 50-mesh stainless steel screen filter element for the check valve
- One (1) Oil regulator (used only on burners that use a 'J' pump)

2.5.1 The Suntec model A2RA-7710 used-oil pump assembly (option # 1) shall be installed as a suction fed only pump and it shall have a maximum vertical lift capacity of 6 feet of suction oil line plus a maximum of 4 feet of horizontal suction oil line.

2.5.2 The Suntec model A2RA-7710 used-oil pump assembly (option # 1) is not an adjustable pressure range pump. The gear motor is rated to deliver the correct amount of fuel per hour (3.57 gph) to the burner unit.

2.5.3 The Suntec model A2RA-7710 used-oil pump assembly (option # 1) shall have a washable 234-micron stainless steel filter screen installed inside of the pump head. (Refer to the CB-500-CTB Operator's Manual for the proper installation of this pump.)

2.5.4 The suction oil line size for the Suntec model A2RA-7710 used-oil pump (option # 1) shall be ½" OD copper tubing from the used-oil tank to the pump.

2.5.5 The pressure oil line size for the Suntec model A2RA-7710 used-oil pump (option # 1) shall be 3/8" OD copper tubing from the used-oil pump head to the burner unit with a maximum run of 100 feet of tubing. (Please note that some installations will allow for a greater pressure line length. Contact your Authorized Clean Burn Distributor for more information.)

2.5.6 The Suntec model J4NB-A1000G used-oil pump assembly (option # 2) shall be installed as a suction fed only pump and it shall have a maximum vertical lift capacity of 10 feet of suction oil line plus a maximum of 30 feet of horizontal suction oil line (not to exceed 10" Hg of vacuum).

2.5.7 The Suntec model J4NB-A1000G use-oil pump (option # 2) shall have an adjustable pressure range of 20 to 40 psig.

2.5.8 The Suntec model J4NB-A1000G use-oil pump (option # 2) shall have a washable 234-micron stainless steel filter screen installed inside of the pump head. (Refer to the CB-500-CTB Operator's Manual and J-Pump Installer's Manual for the proper installation of this pump.)

2.5.9 The suction oil line size for the Suntec model J4NB-A1000G use-oil pump (option # 2) shall be ½" OD copper tubing running from the used-oil tank to the pump head.

2.5.10 The pressure oil line size, from the used-oil pump head to the burner unit, for the Suntec model J4NB-A1000G use-oil pump (option # 2) shall be 3/8" OD copper tubing if less than 75' and ½" OD copper tubing if it is 75' to a maximum of 150'.

2.5.11 All of the Clean Burn used-oil fuel supply units are designed to be used as one-pipe suction fed pump system.

2.5.12 It is recommended that the used-oil be supplied from an inside tank for the best performance and operation of the appliance.

2.5.13 It is recommended that when using an outside above ground tank or an outside below ground tank that you install a "day tank" inside of the building and a pumping transfer system for the best performance and operation of the appliance.

2.5.14 The used-oil pump assembly shall be mounted above the oil tank and be as close to the top of the tank as possible.

2.5.15 When installing more than one appliance into the building each appliance shall have its own used-oil pump assembly for each burner.

2.5.16 A return line from the pump to the tank is not required. However, with the metering pump assembly (option #1) there is a relief valve assembly on the outlet of the pump head that requires a return line to the tank.

2.5.17 The used-oil pump assembly shall be a close coupled gear type pump.

2.6 **STACK:** The CB-500-CTB requires one 10" 24-gauge galvanized sheet metal stack off of the back of the appliance. The stack can be installed on either one of the two stack breech openings off of the back of the appliance. The un-used stack breeching must be capped off with the 10" 24-gauge galvanized sheet metal cap that is included with the appliance.

2.6.1 The appliance includes one Field Type 'M' 9" barometric damper. This damper shall be installed in the exhaust stack leaving the appliance and be installed within 3 to 5 feet of the breeching outlet as per the Codes and Regulations that are listed in Part 1 – Sections 1.4 through 1.4.4 of this bid specification as applicable.

2.6.2 This barometric damper shall be adjusted to maintain a natural draft over-the-fire of -.02" W.C. to a -.04" W.C. and a stack draft of -.04" W.C. to -.06" W.C. at all times.

2.6.3 All other stack materials needed to install this appliance shall be the responsibility of the installer.

2.6.4 Single wall stack can be used on the appliance on the inside of the building only. Where single wall stack can be used it must be 24-gauge galvanized sheet metal only as per the Codes and Regulations that are listed in Part 1 – Section 1.4 through 1.4.4 of this bid specification as applicable.

2.6.5 **DO NOT USE** Type 'B' or 'BW' Vent which is a non-insulated double walled stack approved for LP and natural gas fired appliances only as per the Codes and Regulations that are listed in Part 1 – Sections 1.4 through 1.4.4 of this bid specification as applicable.

2.6.6 **DO NOT USE** Type 'L' Vent which is a non-insulated double walled stack approved for some #2 fuel oil and pellet burning appliances only as per the Codes and Regulations that are listed in Part 1 – Sections 1.4 through 1.4.4 of this bid specification as applicable.

2.6.7 **DO NOT USE** the black decorative style of vent which is a single walled stack approved for solid-fuel burning appliances only as per the Codes and Regulations that are listed in Part 1 – Sections 1.4 through 1.4.4 of this bid specification as applicable.

2.6.8 Where any penetration of a floor, a wall, through the ceiling, into an attic space, where people may brush against the outside surface of the stack, or when you run any stack on the exterior of the building, you shall use an all-fuel pipe material that meets UL Standard 103 Type HT pipe requirements as per the Codes and Regulations that are listed in Part 1 – Sections 1.4 through 1.4.4 of this bid specification as applicable.

2.6.9 Stack that is installed and used for this penetration protection of the building, shall be rated for a chimney temperature suitable for use at 1,000 ^{o}F, and shall be tested to the UL Standard 103 Type HT pipe requirement as per the Codes and Regulations that are listed in Part 1 – Sections 1.4 through 1.4.4 of this bid specification as applicable.

2.6.10 The all-fuel /UL 103 Type HT double walled insulated stack with stainless steel inner core is available through the local Clean Burn Distributor. (Refer to the CB-500-CTB Operator's Manual for the proper way to install the stack, and when to use single wall stack and when you must use the all-fuel /UL 103 Type HT double walled insulated stack.)

PART 3 – ADDITIONAL INFORMATION

3.1 **GENERAL:** The installation of this appliance shall be made in accordance with the manufacturers' instructions, as well as in accordance with all Federal, State, Regional, or Local Laws and / or Regulations acceptable to the Authority Having Jurisdiction (AHJ) and shall be accomplished only by a qualified, certified, and competent heating technician experienced in making such installations as per NFPA 31, Chapter 4, Sections 4.3.2 and 4.3.3 and the Codes and Regulations that are listed in Part 1 – Sections 1.4 through 1.4.4 of this bid specification as applicable.

3.1.1 Installation, operation, and maintenance permits may be required by the Authority Having Jurisdiction (AHJ). It is the responsibility of the purchaser, designated agent, contractor, or installer of the appliance to check with the AHJ as to the proper procedures to follow for the completion of this installation.

3.1.2 Installation inspections of the finished job may also be required by the Authority Having Jurisdiction (AHJ). It is the responsibility of the purchaser, designated agent, contractor, or installer of the appliance to check with the AHJ as to the proper procedures to follow for the completion of this installation.

3.1.3 On-site certification of the appliance may be required by the Authority Having Jurisdiction (AHJ). It is the responsibility of the purchaser, designated agent, contractor, or installer of the appliance to check with the AHJ as to the proper procedures to follow for the completion of this installation.

3.1.4 All appliances shall be tested and installed in accordance with the Codes and Regulations that are listed in Part 1 – Sections 1.4 through 1.4.4 of this bid specification as applicable.

3.1.5 All materials utilized in the installation shall be in strict accordance with the Codes and Regulations that are listed in Part 1 – Sections 1.4 through 1.4.4 of this bid specification as applicable and shall be new and of the best grade and quality.

3.1.6 The bidder must have local service capability to provide on-site service.

3.1.7 The bidder must have current authorization from Clean Burn, Inc. to provide warranty service.

3.2 **OPERATOR MANUALS:** Each appliance comes with one complete CB-500-CTB Operator's Manual included inside of the appliance at time of shipping. Clean Burn, Inc. will supply up to four additional CB-500-CTB Operator's Manuals at no charge for the bidding purpose. If more copies of CB-500-CTB Operator's Manuals are required, they can be ordered through the local Clean Burn Distributor.

PART 4 – WARRANTY

4.1 **WARRANTY INFORMATIOIN:** Clean Burn, Inc. shall warrant the CB-500-CTB Coil Tube Boiler and all other Clean Burn products to be free from defects in material and workmanship under normal use according to the provisions and limitations set in the Operator's Manual for a period of one year from the date of purchase by the original purchaser.

Clean Burn, Inc. warrants the burner and Coil Tube Boiler for a period of one (1) year from the date of purchase by the original purchaser. The steel coil tube section of the boiler only shall carry a limited warranty for a period of three (3) years from the date of purchase by the original purchaser.

4.1.1 The coil tube of the appliance shall carry a limited warranty for a period of three years from the date of purchase by the original purchaser.

4.1.2 The customer shall be responsible for all freight charges incurred for any replacement parts of appliance cabinets shipped to either the Clean Burn Distributor or to the customer during the covered warranty period.

4.1.3 A complete warranty covering this appliance can be found inside the front cover of the CB-500-CTB Operator's Manual.

4.1.4 Clean Burn, Inc. does not warrant any labor for the installation of any failed parts, the labor for the removal and re-installation of the appliance cabinet for any repairs done to the appliance or for the total replacement of the cabinet, or any labor for repairs done to the appliance during the warranty period.

4.1.5 Clean Burn, Inc. is not responsible for any freight or expenses that may be required to ship any repair parts or replacement cabinets to either the Clean Burn Distributor or to their customers.

4.1.6 No other warranty, verbal, implied, or written shall be honored by Clean Burn, Inc. unless it comes directly from Clean Burn's Director of Field Engineering & Technical Support in written form with all parties notified as to the changes and / or additions in the warranty.