

AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT			1. CONTRACT ID CODE	PAGE 1 OF 8 PAGES
2. AMENDMENT/MODIFICATION NO. AMENDMENT NO. 0001		3. EFFECTIVE DATE 07/11/12	4. REQUISITION/PURCHASE REQ. NO.	5. PROJECT NO. (If applicable) 11-0110
6. ISSUED BY CODE		CODE	7. ADMINISTERED BY (If other than Item 6) CODE	
Officer in Charge of Construction MCI-East 1005 Michael Road Camp Lejeune, NC 28547-2521			See Item 6	
8. NAME AND ADDRESS OF CONTRACTOR (No., street, county, State and ZIP Code)			(X)	9A. AMENDMENT OF SOLICITATION NO. N40085-11-R-0110
			X	9B. DATED (SEE ITEM 11) 07/11/12
				10A. MODIFICATION OF CONTRACT/ORDER NO.
				10B. DATED (SEE ITEM 11)
CODE	FACILITY CODE			

11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS

The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offers is extended, is not extended.
 Offers must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended, by one of the following methods:
 (a) By completing items 8 and 15, and returning _____ copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted;
 or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment your desire to change an offer already submitted, such change may be made by telegram or letter, provided each telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.

12. ACCOUNTING AND APPROPRIATION DATA (If required)

**13. THIS ITEM ONLY APPLIES TO MODIFICATION OF CONTRACTS/ORDERS.
IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.**

CHECK ONE	A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: (Specify authority) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A.
	B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation date, etc.) SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(b).
	C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF:
	D. OTHER (Specify type of modification and authority)

E. IMPORTANT: Contractor is not, is required to sign this document and return _____ copies to the issuing office.

14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible.)

11-0110, Mechanical Repairs, Bldg 80

1. Incorporate the attached Specification Section 23 52 43.00 20 into the project/contract.

(CONTINUED)

Except as provided herein, all terms and conditions of the document referenced in Item 9A or 10A, as heretofore changed, remains unchanged and in full force and effect.

15A. NAME AND TITLE OF SIGNER (Type or print)		16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print)	
15B. CONTRACTOR/OFFEROR		16B. UNITED STATES OF AMERICA	
15C. DATE SIGNED		16C. DATE SIGNED	
(Signature of person authorized to sign)		(Signature of Contracting Officer)	

SECTION 23 52 43.00 20

LOW PRESSURE WATER HEATING BOILERS (UNDER 800,000 BTU/HR OUTPUT)

07/06

PART 1 GENERAL

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI)

- ANSI Z21.13/CSA 4.9 (2010; Addenda A 2010) Gas-Fired Low Pressure Steam and Hot Water Boilers
- ANSI Z83.3 (1971; R 1995) Gas Utilization Equipment in Large Boilers

ASME INTERNATIONAL (ASME)

- ASME BPVC SEC IV (2010) BPVC Section IV-Rules for Construction of Heating Boilers
- ASME CSD-1 (2009) Control and Safety Devices for Automatically Fired Boilers

ASTM INTERNATIONAL (ASTM)

- ASTM A53/A53M (2010) Standard Specification for Pipe, Steel, Black and Hot-Dipped, Zinc-Coated, Welded and Seamless
- ASTM C592 (2010) Standard Specification for Mineral Fiber Blanket Insulation and Blanket-Type Pipe Insulation (Metal-Mesh Covered) (Industrial Type)
- ASTM E2129 (2010) Standard Practice for Data Collection for Sustainability Assessment of Building Products

NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION (NEMA)

- NEMA MG 1 (2009) Motors and Generators

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)

- NFPA 211 (2010) Standard for Chimneys, Fireplaces, Vents, and Solid Fuel-Burning Appliances

U.S. DEPARTMENT OF DEFENSE (DOD)

MIL-B-18897

(Rev F; CANC Notice 1) Boilers, Steam and Hot Water, Watertube (Straight Bare and Finned Tube), Cast Iron and Firebox, Packaged Type (40,000 to 35,000,000 BTU/HR Thermal Output Capacity)

U.S. ENVIRONMENTAL PROTECTION AGENCY (EPA)

Energy Star (1992; R 2006) Energy Star Energy Efficiency Labeling System

U.S. GENERAL SERVICES ADMINISTRATION (GSA)

FS F-B-2909 (Basic) Burners, Single Light Oil, Gas, and Light Oil-Gas Combination for Packaged Heating Boilers (up to 320,000 BTU/HR Thermal Output Capacity)

FS F-B-2910 (Basic) Burners, Single Oil, Gas, and Gas-Oil Combination for Packaged Boilers (320,001 to 125,000,000 BTU/HR Thermal Output Capacity)

FS F-F-2901 Feeders, Boiler Water Treatment, By-Pass and Compound Receiver Types

UNDERWRITERS LABORATORIES (UL)

UL 726 (1995; Reprint Apr 2011) Oil-Fired Boiler Assemblies

UL 795 (2011) Standard for Commercial-Industrial Gas Heating Equipment

1.2 RELATED REQUIREMENTS

Section 23 03 00.00 20 BASIC MECHANICAL MATERIALS AND METHODS, applies to this section, with the additions and modifications specified herein.

1.3 DESIGN REQUIREMENTS

Boiler shall be suitable for installation in the space shown with ample room for opening doors and cleaning and removal and replacement of tubes. Boiler shall have an output of 130,000 BTU/hr with an efficiency not less than 94%. Boiler shall be designed, tested, and installed in accordance with ASME BPVC SEC IV and ASME CSD-1. Paint boiler in accordance with manufacturer's recommendations. Boiler design maximum allowable working pressure shall be 160 psig. Boiler operating pressure shall be 16 psig. Boiler operating temperature shall be 150 degrees F. Boiler return water temperature shall be 120 degrees F.

1.3.1 Detail Drawings

Submit fuel train and wiring diagram

1.3.2 Water Analysis

Provide test reports of water analysis.

1.4 SAFETY STANDARDS

Hot water boilers, burners and supplementary control devices, safety interlocks, or limit controls required under this specification, shall meet requirements of the following standards as applicable:

- a. Oil-Fired Units: UL 726.
- b. Gas-Fired Units: ANSI Z83.3, ANSI Z21.13/CSA 4.9 or UL 795.
- c. Combination Gas- and Oil-Fired Units: UL 726, ANSI Z83.3, ANSI Z21.13/CSA 4.9 or UL 795.
- d. All Units: ASME BPVC SEC IV and ASME CSD-1.

Controls not covered by the above shall have a UL label, UL listing mark, or shall be listed in the Factory Mutual Approval Guide.

1.5 SUBMITTALS

The following shall be submitted in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-02 Shop Drawings

Fuel train

Wiring diagram

SD-03 Product Data

Boilers: power output, thermal efficiency, ASME certification, allowable working pressure, model number, documentation for Energy Star qualifications or meeting FEMP requirements

Boiler trim and control equipment

Burners and control equipment

Stack, breeching, and supports

Environmental Data

SD-06 Test Reports

Operational tests

Water analysis

SD-07 Certificates

Boilers

Burners and control equipment

Boiler trim and control equipment

Boilers

Boiler trim and control equipment

Burners and control equipment

Boiler manufacturer's certificate of boiler performance including evidence that the burners provided shall be a make, model, and type certified and approved by the manufacturer of the boiler being provided.

SD-08 Manufacturer's Instructions

Boilers

SD-10 Operation and Maintenance Data

Boilers, Data Package 4

Submit in accordance with Section 01 78 23 OPERATION AND MAINTENANCE DATA.

SD-11 Closeout Submittals

Posted operating instructions for heating water boilers

PART 2 PRODUCTS

2.1 BOILERS

MIL-B-18897. Provide hot water heating boiler complete with firing equipment, combustion chamber, insulation with steel jacket, safety and operating controls, integral electrical wiring and other appurtenances, to make the boiler a complete, self-contained, fully-automatic unit, ready for service upon completion of utility connections. Boilers less than 300,000 Btuh shall have an Annual Fuel Utilization Efficiency (AFUE) of at least 94 percent.

2.2 BURNERS AND CONTROL EQUIPMENT

2.2.2 Gas-Fired Power Burner

Gas-fired power burner. Design burner and combustion control equipment for firing natural gas having a specific gravity of 0.6 and a heating value of approximately 1000 BTU per cubic foot and be an integral part of the boiler. Burner controls and safety equipment shall conform to applicable requirements of FS F-B-2909. Mount controls; including operating switches, indicating lights, gages, alarms, motor starters, fuses, and circuit elements of control systems on a single control panel or cabinet designed for separate mounting not on the burner in accordance with FS F-B-2909. The combustion control system shall be the fully modulating type. Provide fuel train as indicated. Gas pressure available: 2 psig.

2.3 BOILER TRIM AND CONTROL EQUIPMENT

Provide in accordance with MIL-B-18897 and additional requirements specified below.

2.3.1 Emergency Disconnect Switch

Provide and locate on wall just inside door, when boiler room door is on building exterior to allow rapid and complete shutdown of the boiler in the event of an emergency. Emergency switch shall be a fuse-type safety switch. Switch shall be red and furnished with a label indicating function of switch.

2.3.2 Relief Valves

Provide relieving capacity for the full output of boiler installed. Relief-valve piping shall conform to ASTM A53/A53M, copper pipe and be piped full-size to 6 inches above floor.

2.3.4 Thermometer

Provide thermometer with a scale equivalent to 1.5 times outlet water temperature. Provide one located on supply water piping and one on return water piping.

2.3.5 Drain Tapping

Provide drain valve and piping to 6 inches above floor.

2.3.6 Make-up Water Station

2.3.6.1 Pressure Reducing Station

Provide a water pressure-reducing valve and relief valve, or a combination of the two in the makeup water line to the boiler to maintain a water pressure of 16 psig in the hot water system.

2.3.8 Combustion Regulator

Provide adjustable temperature, thermostatic immersion type that shall limit boiler water temperature to a maximum of 250 degrees F. Control shall actuate burner through an electric relay system to maintain boiler water temperature within normal prescribed limits at loads within rated capacity of boiler.

2.3.9 Air Vent Valve

Provide with screwed connection, stainless steel disk, and stainless steel seats to vent entrapped air.

2.3.10 High Temperature Limit Switch

Provide immersible aquastat type with a temperature setting above that of the combustion regulator and below that of the lowest relief valve setting. Aquastat shall function to cause a safety shutdown by closing fuel valves and shutting down burner equipment in the event that boiler water temperature rises to the high temperature limit setting. A safety shutdown due to high temperature shall require manual reset before operation can resume and prevent recycling of burner equipment.

2.3.12 Low Water Level Cutoff Switch

Provide float actuated type. Low water level cutoff shall cause a safety shutdown by closing fuel valves and shutting down burner equipment in the event that water level drops below the lowest safe permissible water level established by the boiler manufacturer and ASME BPVC SEC IV. A safety shutdown due to low water shall require manual reset before operation can resume and prevent recycling of burner equipment.

2.3.13 Boiler Safety Control Circuits

Provide boiler safety control circuits, including control circuits for burner and draft fan shall be single-phase, two-wire one-side grounded, and not over 120 volts. Provide safety control switching in ungrounded conductors. Provide overcurrent protection. In addition to circuit grounds, ground metal parts which do not carry current to a grounding conductor.

2.3.16 Post-Combustion Purge

Provide controls and wiring necessary to ensure operation of draft fan for a period of not less than 15 seconds or of sufficient duration to provide four complete air changes in the boiler combustion chamber (whichever is greater) following shutdown of burner upon satisfaction of heat demand. Upon completion of post-combustion purge period, draft fan shall automatically shutdown until next restart.

2.3.17 Draft

Comply with boiler manufacturer's recommendations.

2.4 ELECTRIC MOTORS

Electric motors shall meet requirements of NEMA MG 1. Motors less than 1 hp shall meet NEMA High Efficiency requirements. Motors 1 hp and larger shall meet NEMA Premium Efficiency requirements. Motors which are an integral part of the packaged boiler system shall be the highest efficiency available by the manufacturer of the packaged boiler. Motors shall be variable speed.

PART 3 EXECUTION

3.1 EQUIPMENT INSTALLATION

Install equipment in accordance with manufacturer's installation instructions. Grout equipment mounted on concrete foundations before installing piping. Install piping in such a manner as not to place a strain on equipment. Do not bolt flanged joints tight unless they match. Grade, anchor, guide, and support piping without low pockets.

3.2 EQUIPMENT FOUNDATIONS

Locate equipment foundations as indicated, designed, and made of sufficient size and weight to preclude shifting of equipment under operating conditions or under abnormal conditions that could be imposed upon the equipment. Foundations shall meet requirements of the equipment manufacturer. Concrete and grout shall conform to Section 03 30 00

CAST-IN-PLACE CONCRETE.

3.4 FIELD QUALITY CONTROL

Perform and furnish everything required for inspections and tests as specified herein to demonstrate that boiler and auxiliary equipment, as installed, are in compliance with contract requirements. Start-up and operate the system. During this time, clean strainers until no further accumulation of foreign material occurs. Exercise care to minimize loss of water when strainers are cleaned. Adjust safety and automatic control instruments as necessary to place them in proper operation and sequence. Test instrumentation shall be calibrated and have full scale readings from 1.5 to 2 times test values.

3.4.1 Operational Tests

Operate each boiler and appurtenances prior to final testing and insure that necessary adjustments have been made. Provide testing equipment required to perform tests. During this testing period, provide operating instructions and training to persons tasked with operation of the boiler. Tests shall be accomplished with both fuels on dual fuel units and include the following:

3.4.1.1 Preliminary Operational Test

Operate the boilers continuously for a period of at least 8 hours to demonstrate proper operability of the combustion control, flame safeguard control, and safety interlocks.

3.4.1.2 Acceptance Operational Test and Inspection

Conduct a preliminary operational test prior to requesting an acceptance operational test and inspection by the Camp Lejeune Boiler inspector. The Contracting Officer, upon receipt of the notice from the Contractor, shall request the boiler be inspected by Camp Lejeune Public Works. Fifteen days advance notice is required for scheduling inspector to conduct acceptance operational test and inspection.

3.5 WASTE MANAGEMENT

Separate waste in accordance with the Waste Management Plan. Close and seal tightly all partly used adhesives and solvents; store protected in a well-ventilated, fire-safe area at moderate temperature.

-- End of Section --