BID PACKAGE

PART IV

SPECIFICATIONS

DMH Project#2021-016

FURNISH AND INSTALL DEAERATOR SYSTEMS
AT
TAUNTON STATE HOSPITAL
60 HODGES AVE.
TAUNTON, MA. 02780

THE COMMONWEALTH OF MASSACHUSETTS
EXECUTIVE OFFICE FOR HEALTH AND HUMAN SERVICES

167 Lyman Street
Westborough, Massachusetts 01581

REQUEST FOR RESPONSE (RFR) FOR

FURNISH AND INSTALL TWO DEAERATOR SYSTEMS
TAUNTON STATE HOSPITAL
60 HODGES AVE.
TAUNTON, MA. 02780

Document Number: 2021-016
RFR Issue Date: June 15, 2020

UNSPC Commodity Code for this RFR: 72-15-10 Boiler Services (TRD01)

This is a single document associated with a complete RFR (also referred to as Solicitation) that can be found on COMMBUYS (www.COMMBUYS.com). All Vendors are responsible for reviewing and adhering to all information, forms and requirements for the entire RFR, which are all incorporated into the RFR. Responses received after the deadline shall be disqualified. All Vendors should plan advance lead time for uploading proposals in a timely manner prior to the deadline. All Questions and Answers and Bid Responses must be submitted electronically through COMMBUYS. Vendors must be registered in COMMBUYS to bid on this Solicitation. Vendors requiring assistance in the registration and use of COMMBUYS should contact the COMMBUYS Helpdesk at COMMBUYS@state.ma.us or the COMMBUYS Helpline at 1-888-MA-STATE. The Helpline is staffed from 8:00 AM to 5:00 PM Monday through Friday Eastern Standard or Daylight time, as applicable, except on federal, state and Suffolk county holidays.

1.0 SUMMARY

The Massachusetts Department of Mental Health (DMH) is requesting proposals from Vendors to furnish and install the following two (2) Deaerator systems for the Power Plant located at Taunton State Hospital, 60 Hodges Avenue, Taunton, MA. 02118:

1. Lockwood Products Model 15SS Deaerator (See Exhibit A)
2. Lockwood Products Model 60SS-LX Deaerator (See Exhibit B)

The objective of the task is to furnish and install the two deaerator systems, as specified above, to replace the existing Seller Deaerator Model # 3-1700-3.1630-2G-L20GG serial # 100059 in the Taunton State Hospital Central Power Plant. Work must be coordinated in a manner that minimizes boiler plant downtime. System information for the two systems are attached Exhibits A and B. Installation labor rates fall under the guidelines of the Department of Labor Standards Prevailing wage rates under MGL Chapter 149.

2.0 PROCUREMENT SCHEDULE

Scope of Services posted on COMMBUYS:	**June 15, 2020**
***Mandatory walk-thru/Site Visit:**	**by June 25 (call for appointment)**
Bidder Questions Due on COMMBUYS:	**June 26, 2020 by 3:00PM**
Responses to Bidders Questions Due on COMMBUYS:	**June 30, 2020 by 3:00PM**
Bid Opens:	**July 2, 2020 @ 3:00PM**

*To schedule a site visit, please call Mark Anderson (Facility Director) at 508-977-3028 or Gerald McCullough, Project Engineer, at 508-616-2248.

Please note that ALL bidder questions must be submitted on COMMBUYS.

3.0 WARRANTY

All warranties for the system and for the individual components shall be for two years and shall be transferred to DMH upon delivery.

4.0 SCHEDULE

Following the written authorization from DMH to proceed, the Contractor will commence work as agreed to in the Scope of Work and Contractor proposal for work. The Lockwood Products Deaerator Model 60SS-LX shall be delivered within ten weeks of the written Notice to Proceed and the Lockwood Products Deaerator Model 15SS shall be delivered within five weeks of written Notice to proceed. Written plan for installation will coincide with delivery timeline.

All applicable written warranties, operating instructions, and related information shall be provided to DMH prior to release of payment.

5.0 EVALUATION CRITERIA

Respondent scores will be used to rank Bidders and will determine which Respondents will proceed to subsequent stages of the evaluation and/or enter into negotiations with DMH to receive the Task award.

DMH will evaluate Responses to this Scope of Work (SOW) and select Respondent(s) based the Vendor's cost, ability to meet DMH's schedule, and a determination that the Respondent(s) selected will provide best value and are highly advantageous to the Commonwealth.

The Department reserves the right to waive any informality in or reject any or all Bids if it is in the public interest to do so.

6.0 SCOPE OF WORK (SOW)

The project involves the replacement of the existing Seller's Deaerator unit and replacing it with two Lockwood Deaerator units. This is proposed to be a two (2) Phase project with the First Phase being furnishing and installing a Lockwood Model 15SS Deaerator on a new concrete pad adjacent (in the corner) next to the existing Seller's unit. Once this unit has been factory started-up and operational then Phase Two can begin with the demolition and removal of the existing Seller's unit and the Furnishing and Installation of a Lockwood Model 60SS-LX Deaerator on the existing concrete pad, with addition to the pad if required. Once this unit has been factory started-up and tested the project should be complete.

The successful Contractor shall be responsible for, but not limited to, the following:

1. Furnish and Install the two Lockwood Deaerators described in these bid documents (or an approved equal).

2. All labor and materials to completely Furnish & Install in a code compliant manor.

3. Labor shall include but not be limited to setting of units with crane on concrete pads constructed by the Contractor, all piping, electrical and mechanical work required for a code compliant installation.

4. All Labor and materials to mechanically connect all required Piping to and from the Deaerator. Piping shall include but not be limited to steam supply, condensate returns, make-up water, boiler feed water, any vent/relief valve piping, overflow piping to drain. All piping materials shall be code compliant and Plumbing permit must be pulled for work to be done. The Boiler Inspector may also need to be contacted for inspection of Deaerator as a part of the Boiler Power Plant.

5. All Labor and materials to electrically connect up power to the control panel on the New Deaerator unit. All electrical work to be code compliant and Electrical permit must be pulled for work to be done.

EXHIBIT A

LOCKWOOD PRODUCTS MODEL 15SS

DUPLEX SPRAY DEAERATOR SYSTEM

The proposed deaerator system has been selected based on one (1) 200 HP boiler operating at 15 psig. The boiler operates in an on-off mode. The vendor shall provide a complete system that contains, but is not limited to, the following:

Deaerator:

(l) One 15,000#/hr. 0.005 Spray Type Deaerator. Design is a two stage, spray scrubber with counter flow type steam flow. Storage Tank Section will be 36"dia.x 72" shell length Deaerator Section is 24”dia. X 26” shell length. Storage capacity to overflow is 300 gallons of deaerated water. Deaerator section designed and built in accordance with the ASME code for 50 PSIG @ 400 deg. F.

Guarantees:

Oxygen removal to 0.005 cc/I (7 PPB).
To deaerate at all loads from 3% to l00% of rated outlet capacity.
To eliminate titratable free carbon dioxide to 0.
To heat water to the corresponding temperature of the saturated steam contained within the vessel.

Boiler Feed Pumps:

(2)Two Grundfos Model# CR5-4K centrifugal boiler feed pumps equipped with high temperature mechanical seals and Low NPSH Inducer. Each pump will have a capacity of 21 GPM @ 105' TOH of 227 deg.F. water. Each pump to be driven by a 2 HP, 460v, 60Hz, 3Ph , 3500 RPM TEFC motor.

Pumps to be piped to individual pump suction connections with:

(2) Shutoff Valves
(2) Strainers
(2) Flexible Connectors

Pump to be piped to individual pump discharge connections with:

(2) Shutoff Valves
(2) Check Valves
(2) Pressure Gauges

Deaerator Accessories

(1) Water Inlet Control Valve w/ 3 Valve Bypass & Strainer
(1) Level Controller- 93-7B
(1) Set Safety Type Water Glass Gauges
(1) Water Inlet Pressure Gauge
(1) Steam Section Pressure Gauge
(1) Storage Section Thermometer
(1) Sentinel Relief Valve set@ 15 PSIG
(1) Vacuum Breaker
(1) Manual Vent Valve
(1) High Level Alarm
(1) Low Level Alarm and Pump cutoff
(1) Overflow Trap
(1) Steam Pressure Reducing Valve (shipped loose) -Watson McDaniel
(1) Full Capacity Steam Pressure Relief Valve

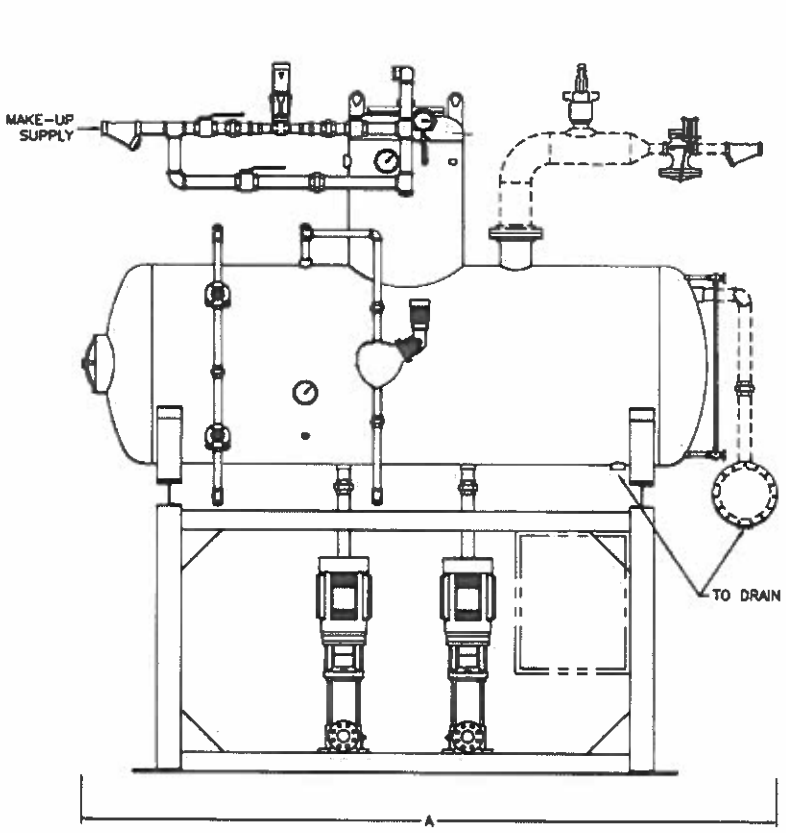
System Control Panel

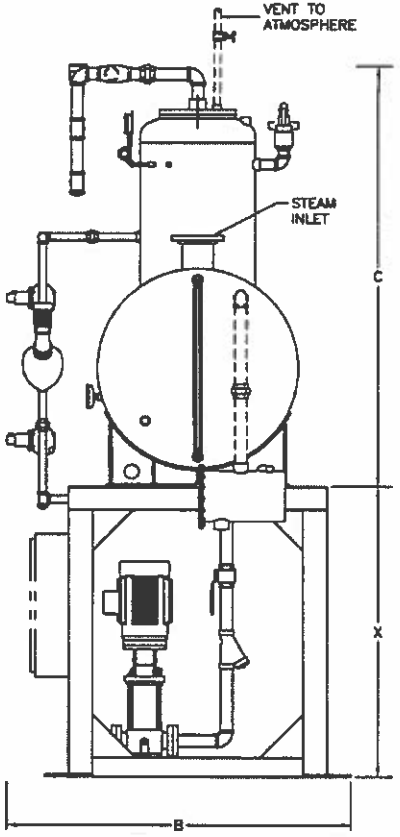
(2) Motor Starters
(2) Pump Running Lights
(1) Main Disconnect Switch
(2) HOA selector Switches
(1) Control Circuit Transformer
(1) Power On/Off Switch and Light
(1) High I Low Level Alarm System
(1) Low Water Pump Cutoff Relay.

Above Mounted in a NEMA # 12 UL labeled enclosure with wiring to motors. Wiring of water inlet valve, level controller and alarm switches to be completed by Contractors Electrician.

Equipment supplier shall include factory certified Start –up of the Deaerator unit.

Exhibit A
Lockwood Deaerator Model 15SS





Model	Capacity (#/hour)	Storage		Storage Tank		Deaerator		Dimensions			Overflow	Steam Inlet	Weight - Lbs		
		Cu. Ft.	Gallons	Dia.	Shell Length	Dia.	Shell Length	A	B	C			Shipping	Operating	Flooded
5SS	5000	13	100	30"	4'-0"	24"	25"	6'-3"	4'-3"	5'-11"	1"	2-1/2"	2600	3500	4400
10SS	10000	26	200	30"	6'-8"	24"	25"	9-0"	4'-3"	5'-11"	1"	3"	2950	4650	5700
15SS	15000	40	300	36"	6'-0"	24"	28"	8'-6"	4'-9"	6'-9"	2"	4"	3250	5800	6650
20SS	20000	53	400	36"	8'-0"	24"	28"	10'-6"	4'-9"	6'-9"	2"	5"	3900	7300	8250
30SS	30000	80	600	42"	9'-1"	24"	28"	11'-9"	5'-3"	7'-3"	2"	6"	4800	9850	10100
45SS	45000	120	900	42"	13'-11"	30"	30"	16'-9"	5'-3"	7'-6"	2"	8"	5700	13250	14850
60SS	60000	160	1200	48"	13'-4"	30"	30"	16'-3"	5'-9"	8'-0"	3"	8"	6900	16950	18600
75SS	75000	200	1500	48"	17'-0"	36"	30"	20'-0"	5'-9"	8'-6"	4"	10"	9050	21500	23750
90SS	90000	240	1800	54"	15'-5"	36"	30"	18'-9"	6'-3"	9'-0"	4"	10"	9100	24400	26550
120SS	120000	320	2400	54"	21'-0"	36"	30"	24'-3"	6'-3"	9'-6"	4"	12"	10900	31050	33650
150SS	150000	400	3000	60"	21'-2"	42"	30"	24'-9"	6'-9"	10'-3"	6"	12"	12650	37900	41200
180SS	180000	480	3600	72"	17'-8"	42"	42"	21'-6"	6'-9"	12'-3"	6"	14"	12200	42500	45700

NOTES:

- PIPING SHOWN AS DOTTED IS BY OTHERS
- "X" STAND HEIGHT WILL VARY DEPENDING UPON PUMP
- DIMENSIONS & WEIGHTS ARE FOR REFERENCE ONLY

LOCKWOOD PRODUCTS, INC.
ATLANTA, GEORGIA

LOCKWOOD MODEL SS DEAERATOR
TYPICAL LAYOUT

DRAWN BY:	N.J.M.	DATE:	11/24/09
CHECKED BY:		REVISED:	
SCALE:	NONE	DWG. NO:	SS STD

EXHIBIT B

LOCKWOOD PRODUCTS MODEL 60SS-LX SPRAY

DEAERATOR SYSTEM

The proposed deaerator system has been selected based on three (3) 500 HP boiler operating at 15 psig. The boiler operates in an on-off mode. The vendor shall provide a complete system that contains, but is not limited to, the following:

Deaerator:

(1) 60,000#/hr. 0.005 Spray Type Deaerator. Design is a two stage spray scrubber with counter flow type steam flow. Deaerator section will be 60"x 120" shell length. Storage capacity to overflow is 1,300 gallons of deaerated water. Deaerator section designed and built in accordance with the ASME code for 50 PSIG @ 400 degrees F.

Guarantees:

Oxygen removal to 0.005 cc/I (7 PPB).
To deaerate at all loads from 3% to I 00% of rated outlet capacity.
To eliminate titratable free carbon dioxide to 0.
To heat water to the corresponding temperature of the saturated steam contained within the vessel.

Boiler Feed Pumps:

(4) Fout Grundfos Model# CR!0-3K centrifugal boiler feed pumps equipped with high temperature mechanical seal and Low NPSH Inducer. Each pump will have a capacity of 52 GPM@ I 051 TOH of 227 degree F. water. Each pump to be driven by a
3 HP, 460v, 60Hz, 3 PH, 3500 RPM, TEFC motor.

Pumps to be piped to individual pump suction connections with:

(4) Shutoff Valves
(4) Strainers
(4) Flexible Connectors

Pump to be piped to individual pump discharge connections with :

(4) Shutoff Valves

(4) Check Valves
(4) Pressure Gauges

Deaerator Trim:

(1) Water Inlet Control Valve w/ 3 Way Valve Bypass & Strainer-Belimo
(1)Level Controller- 93-7B
(1) Set Safety Type Water Glass Gauges
(1) Water Inlet Pressure Gauge
(1) Steam Section Pressure Gauge (1) Storage Section Thermometer
(1) Sentinel Relief Valve set@ 15 PSIG
(1) Vacuum Breaker
(l) Manual Vent Valve
(1) High Level Alarm
(l) Low Level Alarm & Pump Cutoff
(1) Overflow Trap (shipped loose)
(1) Steam Pressure Reducing Valve (shipped loose) -Watson McDaniel
(1) Full Capacity (of steam pressure reducing valve) Relief Valve

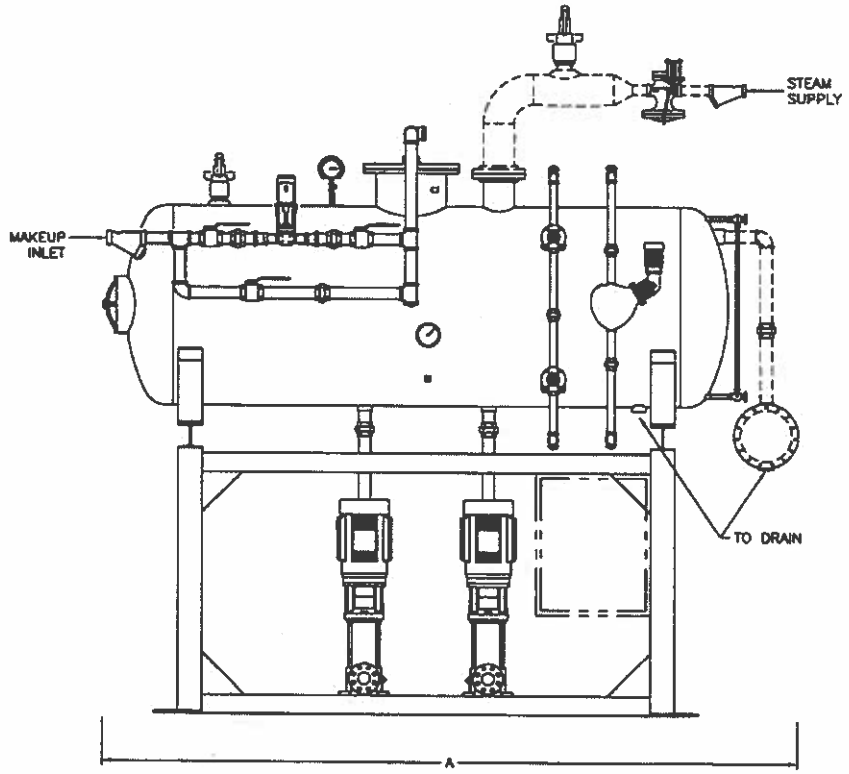
System Control Panel:

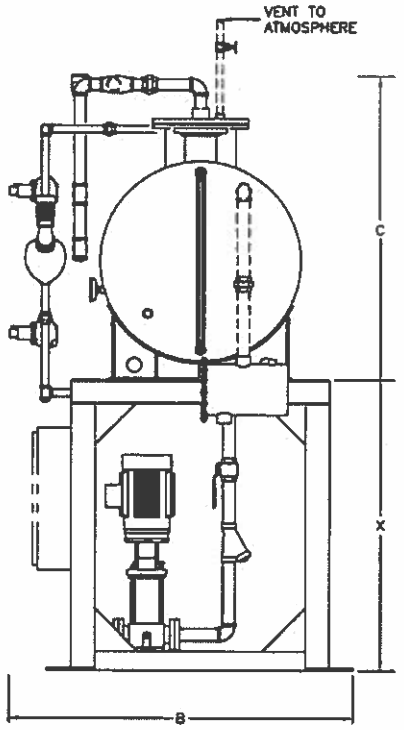
(4) Starters
(4) Pump Running Lights
(1) Main Disconnect Switch
(4) HOA selector Switches
(1) Control Circuit Transformer
(1) Power On/Off Switch and Light
(1) High I Low Level Alarm System
(1) Low Water Pump Cutoff Relay.

Above mounted in a NEMA #12 UL Labeled enclosure with wiring to motors. Wiring of water inlet valve, level controller and alarm switches will be pe1formed during installation by others.

Equipment supplier shall include factory certified Start –up of the Deaerator unit.

Exhibit B
Lockwood Deaerator Model 60SS-LX





Model	Capacity (#/hour)	Storage		Deaerator		Dimensions			Overflow	Steam Inlet	Weight - Lbs		
		Cu. Ft.	Gallons	Diameter	Shell Length	A	B	C			Shipping	Operating	Flooded
5SS-L	5000	13	100	36"	5'-0"	8'-4"	4'-9"	4'-10"	1"	2-1/2"	2600	3500	4400
10SS-L	10000	26	200	36"	6'-8"	10'-0"	4'-9"	4'-10"	1"	3"	2950	4650	5700
15SS-L	15000	40	300	42"	6'-3"	9'-7"	5'-3"	5'-4"	2"	4"	3250	5800	6650
20SS-L	20000	53	400	42"	8'-7"	11'-11"	5'-3"	5'-4"	2"	5"	3900	7300	8250
30SS-L	30000	80	600	48"	8'-9"	12'-1"	5'-9"	5'-10"	2"	6"	4800	9850	10100
45SS-L	45000	120	900	54"	11'-1"	14'-5"	6'-3"	6'-4"	2"	8"	5700	13250	14850
60SS-L	60000	160	1200	54"	15'-0"	19'-0"	6'-3"	6'-4"	3"	8"	6900	16950	18600
75SS-L	75000	200	1500	60"	15'-0"	18'-4"	6'-9"	6'-10"	4"	10"	9050	21500	23750
90SS-L	90000	240	1800	60"	19'-0"	22'-4"	6'-9"	6'-10"	4"	10"	9100	24400	26550

NOTES:

- PIPING SHOWN AS DOTTED IS BY OTHERS
- "X" STAND HEIGHT WILL VARY DEPENDING UPON PUMP
- DIMENSIONS & WEIGHTS ARE FOR REFERENCE ONLY

LOCKWOOD PRODUCTS, INC.
ATLANTA, GEORGIA

LOCKWOOD MODEL SS-L DEAERATOR
TYPICAL LAYOUT

DRAWN BY:	N.J.M.	DATE:	11/24/09
CHECKED BY:		REVISED:	
SCALE:	NONE	DWG. NO:	SS STD