Louisiana School
for Math, Science, and the Arts

The Louisiana School for Math, Science, and the Arts is soliciting bids for Annual Inspection on three (3) Raypak Boilers, one (1) McQuay Chiller, one (1) Daiken Chiller, two (2) Cleaver Brooks Boilers, two (2) Carrier Chillers and two (2) Fulton Boilers.

Louisiana School for Math, Science and Arts
715 University Parkway
Natchitoches, LA 71457

Site visit with LSMSA staff is required to prior to bidding Vendor can meet with Henry Llorence, Hillary Ward or John Allen for site signature. **Job completion by May 15, 2023.**

Boiler and Chiller List:

Qty 3 - Raypak	McQuay	Qty 2 - Cleaver Brooks	Qty 2 - Carrier	Qty 2 - Fulton	Daiken
CPT Boilers (original - 2009)	CPT Chiller (original - 2009)	HSB Boiler (original - 1983)	HSB Chillers (1 old/1new)	LLC Boilers (Original Aug 2020)	LLC Chiller (Original Aug 2020)
Model: H1-1468	Model AGZ190CHSNN-ER10	Model CB700125A	Model 19DK5052CC	Model EDR-2000	Model # AWV016AJJNKKN0A
Serial #: 0809287513	Serial #: STNU081002Y9	Serial #: L77963	Serial #: 84-10-35279	Serial #: 6615-HFTC	STNU200400057
Model: H1-1468		Model CB700-125A	Model 30HXC206RYU671KA	Model EDR-2000	
Serial #: 0809287512		Serial #: L77962	Serial #: 3921Q27308	Serial #: 6672-HFTC	
Model: H1-1468					
Serial #: 089287571					

Scope of Work:

Qty 3 – Raypak Boilers – Provide Preventive Maintenance Kits as appropriate.

Model: H1-1468
Serial #: 0809287513
Model: H1-1468
Serial #: 0809287512
Model: H1-1468
Serial #: 089287571

The scope of work for each boiler shall include but not be limited to:

1. Remove top of heater and inspect heat exchanger for soot and examine venting system.
2. Remove rear header and inspect for scale deposits, and/or accelerated erosion.
3. Inspect pilot and main burner flame and firing rate.
4. Inspect and operate all controls and gas valve.
5. Visually inspect system for water leaks.
6.
    a. Oil pump motor and bearing assemble, if oil cups are provided.
    b. Disconnect pump from header and check condition of pump impeller. Check condition of bearing by attempting to move impeller from side to side. Replace any parts showing wear.
7. Check flow switch paddle.

8. Check air intake openings to ensure adequate flow of combustion and ventilation air.

Qty 2 – Cleaver Brooks – Boilers – Provide Preventive Maintenance Kit(s) as appropriate.

Model CB700-125A
Serial #: L77963
Model CB700-125A
Serial #: L77962

The scope of work for each boiler shall include but not be limited to:

1. Open the fire side and the water side for inspection.
2. Check heating surfaces of fire side and water side for corrosion, pitting, blisters, bulges, and soot.
3. Inspect refractory.
4. Brush boiler tubes if needed.
5. Clean fire inspection glass.
6. Disassemble, clean and inspect low water cutoff controls.
7. Reassemble boiler and low water cutoff controls with new gaskets.
8. Refill boiler.
9. Clean burner fan wheel and air dampers.
10. Clean and check flame detector.
11. Check all burner linkages for excessive wear.
12. Tighten all linkage set screws.
13. Check gas valves against leakage (where test cocks are provided).
14. Check pilot flame and adjust if necessary.
15. Check operation of modulating motor.
16. Check settings and test all operating and limit controls.
17. Check fuel supply.
18. Check operation of low water cutoff and feed controls.
19. Start burner and check all operating controls.
20. Test safety controls.
21. Perform combustion tests and adjust burner for maximum efficiency.
22. Review operating procedures with boiler operator.
23. Test and calibrate pressure relief valves for proper pressure settings.

Qty 1 – McQuay Air Cooled Scroll Compressor Chiller – Provide Preventive Maintenance Kit(s) as appropriate.

Model AGZ190CHSNN-ER10
Serial #: STNU081002Y9

The scope of work for this chiller shall include but not be limited to:

1. Visually inspect unit for loose or damaged components
2. Inspect thermal insulation for integrity.
3. Check electrical terminals for tightness, tighten as necessary.
4. Clean control panel cabinet interior. Check all control panel access door gaskets for integrity and replace if necessary.
5. Visually inspect components for signs of overheating.

6. Verify compressor heater operation if equipped.
7. Test and Calibrate equipment protection and operating controls.
8. Megger compressor motors.
9. Leak test refrigeration circuits
10. Check refrigerant levels and check sight glass for clear flow.
11. Check filter-dryer pressure drop for abnormalities. Replace filter-dryer if needed.
12. Perform compressor vibration test.
13. Acid test oil sample.
14. Clean condenser coils.
15. Visually inspect blades on condenser fans for loose rivets and cracks.
16. Visually inspect and check condenser fan motors for proper operation.
17. Check condenser coil fins for damage.
18. Clean work area for all debris once work has been completed.
19. Make all necessary operational adjustments.

Qty 1 – Carrier Centrifugal Chillers – Provide Preventive Maintenance Kit(s) as appropriate.

Model 19DK5052CC
Serial #: 84-10-35279

The scope of work for this chiller shall include but not be limited to:

1. Pressurize and conduct leak check on unit.
2. Clean control panel.
3. Check data display accuracy and set points.
4. Check and test all operating and safety controls.
5. Check operation of chilled and condenser water flow switches.
6. Clean, inspect, and adjust motor start components. Check dash pot oil levels.
7. Tighten all accessible electrical connections.
8. Remove oil sample and conduct analysis.
9. Change compressor oil and filters.
10. Meg and record motor winding resistance
11. Replace all refrigerant driers and replace filters.
12. Replace purge unit filters and driers if applicable.
13. Remove condenser head and visually inspect tubes and end sheet.
14. Mechanically brush clean condenser tubes.
15. Check inlet vane operator and linkage, lubricate and adjust where necessary.
16. Submit copy of data log sheet along with oil analysis results to owner.
17. Check refrigerant levels.
18. Place unit in operation and record all temperatures and pressures.
19. Check operation of purge unit. Diagnose and report any deficiencies to owner.
20. Check motor-starter sequence of operation.
21. Make all necessary operational adjustments.
22. Clean all oil and debris from work area once service has been completed.

Qty 1 – Carrier 30HXC Water Cooled Screw Chiller – Provide Preventive Maintenance Kit(s) as appropriate.

Model
30HXC206RYU671KA
Serial #: 3921Q27308

The scope of work for this chiller shall include but not be limited to:

1. Check all electrical connections. Tighten as necessary.
2. Check accuracy of all transducers for each circuit, replace as necessary.
3. Check accuracy of thermistors, replace if greater than ± 2°F variance from calibrated thermometer.
4. Obtain and test an oil sample, change as necessary.
5. Clean cooler tubes if appropriate.
6. Check to be sure that the proper concertation of antifreeze is present in the chilled water loop.
7. Check to be sure that the proper amount of inhibitor is present in the chilled water loop.
8. Check all refrigerant strainers and filter driers for pressure drops, replace or clean as necessary.
9. Check condenser water regulating valve operation, if equipped.
10. Clean condenser tubes if appropriate.
11. Check condenser water strainers, clean as necessary.

Qty 1 – Daiken Chiller – Provide Preventive Maintenance Kit(s) as appropriate.

Model #
AWV016AJJNKKN0A
STNU200400057

The scope of work for this chiller shall include but not be limited to:

General

1. Inspect thermal insulation for integrity.
2. Inspect unit for loose or damaged components and visible leaks.
3. Clean and paint as required.

Electrical (including the VFDs)

4. Sequence test controls
5. Check contactors for pitting, replace as required.
6. Check terminals for tightness, tight as necessary.
7. Verify solenoid plug(s) tightness and gasket integrity.
8. Clean control panel interior.
9. Clean control box fan filter.
10. Verify compressor and oil heater operation.
11. Megger compressor motor.

Refrigeration/Lubricant

12. Leak Test.
13. Check liquid line sight glasses for clear flow.
14. Check compressor oil sight glasses for correct level (lubricant charge).
15. Check filter-drier pressure drop.
16. Perform compressor vibration test.
17. Perform oil analysis test on compressor oil.

Condenser (Air-cooled)

18. Clean condenser coils.
19. Check fan blades for tightness on shaft.
20. Check fans for loose rivets and cracks, check motor brackets.
21. Check coil fins for damage and straighten as necessary.

Qty 2 –Fulton Endura Boilers – Provide Preventive Maintenance Kit(s) as appropriate.

Model EDR-2000
Serial #: 6615-HFTC
Model EDR-2000
Serial #: 6672-HFTC

The scope of work for these boilers shall include but not be limited to:

1. Inspect the fuel train, burner and control panel to be sure components are free of debris and are properly attached to the boiler.
2. Replace the combustion air filter with a new filter of the same Fulton part number (type, size and style).
3. Examine the venting system (air intake and exhaust piping).
4. Inspect the hydronic heating system for other problems.
5. Leak test and inspect the filter of the gas valve.
6. Clean the low water cut-out probe on the water outlet pipe. This can be accessed via the top removable panel.
7. Clean the venturi with a clean cloth to remove dust build up.
8. Remove and inspect burner. Clean as necessary.
9. Check the cabinet for leaks that would allow unfiltered combustion air to enter the cabinet. Any leaks should be taped or caulked. Damaged gaskets must be replaced.
10. Rest relief valve per manufacturer instructions by lifting the lever for 5 seconds and allowing the valve to snap shut.
11. Perform combustion analysis and adjust if necessary. A low O2 level can indicate a need for burner service.

Fulton Endura Boiler's Annual Maintenance Checklist:

Burner head removed and visually inspected.
Burner head cleaned (30-72.5 psi air only).
Burner head reinstalled with new gaskets.
Burner flange hardware torqued to specification.
Low water probe(s) removed, cleaned and reinstalled.
Combustion air inlet filter replaced with new.
Direct spark ignition replaced with new, and gap properly set.
Special gas vent system and condensate drains inspected.
Combustion air intake system inspected.
Safety relief valve tested, replaced if it does not fully reseat.
Open factory Service Bulletin(s) addressed (where applicable).
Safety checks table completed.
Combustion verification completed, adjust as necessary.

Within 20 days of inspection, provide the agency with a written report on the inspection of three (3) Raypak Boilers, one (1) McQuay Chiller, one (1) Daiken Chiller, two (2) Cleaver Brooks Boilers, two (2) Carrier Chillers and two (2) Fulton Boilers.

Vendor will furnish all parts, labor and equipment required for job completion.

Any defective areas found during the inspection shall not be replaced or repaired without prior approval of the owner.