Attachment A (Scope Of Work):

Note: All HVAC Preventative Maintenance procedures/services provided shall meet the requirements listed in this attachment (Scope Of Work) and shall meet all requirements listed by each of the individual equipment manufacturers. Documentation detailing services rendered to each piece of equipment shall be generated at time of service and provided to Butler Tech. Documentation shall be stored by the vendor/contractor awarded this contract for the life of the agreement. This documentation shall be the property of Butler Tech.

Split System Condensing Units/Heat Pumps

Safety & Regulatory Compliance:
- Review manufacturer’s instructions.
- De-energize, lock out, and tag out electrical circuits.
- Comply with the latest provisions of the Clean Air Act and EPA regulations as they apply to the protection of the ozone.
- Intentional release of refrigerant is prohibited. During the servicing, maintenance, and repair of refrigeration equipment all refrigerant must be recovered. All refrigerant recovered from Butler Tech equipment becomes property of Butler Tech.
- Whenever refrigerant is added or removed from equipment, record quantities on the appropriate forms.
- If disposal of equipment being maintained and/or repaired is needed, follow regulations detailing the removal of refrigerant and disposal of remaining parts/pieces.
- If materials containing refrigerants are discarded comply with EPA regulations where applicable.
- Refrigerant oil contained within compressors and other parts of the refrigerant system is to be removed and disposed of according to all applicable regulations.
- Follow all safety procedures described in the Safety Data Sheet for refrigerants, oils, and all other hazardous materials contained within equipment. Label all containers containing hazardous materials accordingly.

Quarterly Operating Inspection:
- Thoroughly inspect exterior of the unit and note any deficiencies.
- Inspect condenser coils for cleanliness and damage. Brush and clean at least twice bi-annually and then as necessary. Utilize environmentally friendly cleaning solution.
- Lubricate fan and motor bearings as required.
- Check belt tension and alignment if applicable.
- Check entering and leaving discharge air temperature on condenser.
- Check liquid line for sub-cooling.
- Check unit for excessive noise or vibration.
- Remove any debris from air screen and clean underneath unit.
- Straighten fin tubes with fin comb as required.
- Check electrical connections for tightness.
- Check fan blades and belts. Clean fan blades as necessary.
- Check wires at condenser electrical fused safety switches for tightness and burned insulation. Repair as necessary.
- If equipment is tied to BAS verify all components are communicating with front end.
- Report any abnormalities to owner. All maintenance reports
Split System Indoor Air Handler/Furnace (DX/Chilled Water & Gas/Electric)

Safety & Regulatory Compliance:
- Review manufacturer’s instructions.
- De-energize, lock out, and tag out electrical circuits.
- Comply with the latest provisions of the Clean Air Act and EPA regulations as they apply to the protection of the ozone.
- Intentional release of refrigerant is prohibited. During the servicing, maintenance, and repair of refrigeration equipment all refrigerant must be recovered. All refrigerant recovered from Butler Tech equipment becomes property of Butler Tech.
- Whenever refrigerant is added or removed from equipment, record quantities on the appropriate forms.
- If disposal of equipment being maintained and/or repaired is needed, follow regulations detailing the removal of refrigerant and disposal of remaining parts/pieces.
- If materials containing refrigerants are discarded comply with EPA regulations where applicable.
- Refrigerant oil contained within compressors and other parts of the refrigerant system is to be removed and disposed of according to all applicable regulations.
- Follow all safety procedures described in the Safety Data Sheet for refrigerants, oils, and all other hazardous materials contained within equipment. Label all containers containing hazardous materials accordingly.

Quarterly Operating Inspection:
- Thoroughly inspect exterior of indoor air handling unit/furnace.
- Verify proper operation of thermostat. Verify all gas and electric heat elements are functional.
- Visibly check for chilled water or refrigerant leaks on all line sets, valves, strainers, etc.
- Check operation of all gas controls and valves including: manual gas shutoff, regulator, safety shutoff solenoid, automatic gas valve, butterfly gas valve, blower, etc.
- Lubricate fan and motor bearings as required.
- Check belt tension and alignment if applicable.
- Check belt for degradation.
- Replace filters. Match existing filter size/type. Check unit for excessive noise and vibration.
- Check discharge air temperature.
- Verify condensate drain line isn’t clogged.
- Remove all panels.
- Clean drain pan.
- Clean strainer on chilled water unit if applicable.
- Check for refrigerant leaks if applicable.
- Check coil air pressure drop.
- Clean coil at least twice bi-annually and then as necessary. Utilize steam or an environmentally friendly low VOC cleaner.
- Drain and clean humidifier pan if applicable.
- Clean and lubricate motor and fan bearings as required.
- Check pulley alignment if applicable.
- Check bearings for excessive wear and tear.
- Check re-heat coil pressure drop. Clean if necessary.
- Check electrical connections for tightness.
- Check for gas leaks.
- Change flame and spark rods as necessary.
- If equipment is tied to BAS verify all components are communicating with front end.
- Report any abnormalities to owner.
Hot Water Boiler (Natural Gas)

Safety & Regulatory Compliance:
- Review manufacturer’s instructions.
- De-energize, lock out, and tag out electrical circuits as required.

Quarterly Operating Inspections (Includes items listed below and any additional tasks required by specific manufacturers to be performed):
- Review operating logs and system operation. Notify facility management of any discrepancies.
- Inspect all gauges, monitors, and indicators for proper function.
- Inspect complete pressure vessel, appliances and auxiliaries for signs of leakage.
- Blow down the water and safety column to verify proper operation of low water control and bottom blowdown to remove accumulated solids.
- Complete a safety-check on all safety pressure controls, low water cut off controls, and flame safe-guard controls. Inspect burner flame-fail control.
- Run the combustion control system through a sequence of operation.
- Inspect burners, fuel strainers, and filters. Replace if necessary. Inspection of burner should include fuel train and all mechanical and electrical related equipment for proper operation.
- Inspect all burner settings and linkage.
- Inspect complete fuel train for signs of leaks or abnormalities.
- Inspect all combustion draft devices for correct operation.
- Inspect all combustion doors and closures for signs of leakage or burning.
- Check for adequate combustion air intake.
- Inspect safety relief valves for signs of leakage or damage.
- Inspect auxiliary equipment including expansion tanks, make up water regulators, pressure reducing valves, and related equipment for proper operation.
- If equipment is tied to BAS verify all components are communicating with front end.
- Complete a written work order report on the above work listing any repairs or adjustments made and any follow up work that is required or recommended.

Annual Inspection (To be performed per the following list and any manufacturer specific requirements):
- Boilers to be shut off 24 hours prior to starting annual preventative maintenance work.
- Inspect and check all control connections, starter and motor connections for tightness and signs of overheating, contact pitting, and overloading.
- Inspect condition of breaching flues, dampers, and stack base.
- Clean and inspect make-up feed and pressure regulating system.
- Inspect combustion air intake dampers.
- Clean, lubricate, and adjust actuator linkage as necessary.
- Check all combustion draft devices for correct operation.
- Dismantle, clean, and inspect burners, fuel strainers, and filters.
- Inspection of burner should include fuel train and all mechanical and electrical related equipment for proper operation.
- Check and inspect all burner settings and linkage.
- Once maintenance complete, fire boiler and allow for boiler to warm up from cold start.
- Complete a safety and operating control check including all safety controls, low water cut-off, and flame fail control.
- This agreement does not include water flow, water treatment, safety relief valves, tube sheets, cast iron sections, heat exchangers, fire tubes, hand hole plates and rings, water-side rupture and fireside refractory failure, boiler failure due to negligent acts or corrosion.
• Report any abnormalities to owner.

Hydronic Circulating Pumps

Safety & Regulatory Compliance:
• Review manufacturer’s instructions.
• De-energize, lock out, and tag out electrical circuits as required.

Quarterly Operating Inspections (Includes items listed below and any additional tasks required by specific manufacturers to be performed):
• Perform a visual inspection of the pump shaft, bearings, couplings, and packing.
• Verify pump is aligned and no un-wanted vibration is present.
• Make adjustments to the packing as required.
• Check for proper operating temperatures and pressures.
• Insure shaft and coupling guards are in place and secure.
• Lubricate motor bearings at least once per year.
• Check and log motor amperage draw.
• Check motor run time and change lead/lag pump as required to disburse run-time equally for duplex and triplex installations.
• If equipment is tied to BAS verify all components are communicating with front end.
• Report any abnormalities to owner.

Exhaust Fans

Safety & Regulatory Compliance:
• Review manufacturer’s instructions.
• De-energize, lock out, and tag out electrical circuits as required.

Quarterly Operating Inspections (Includes items listed below and any additional tasks required by specific manufacturers to be performed):
• Perform a visual inspection of the shround/housing, shaft, bearings, couplings, belts, motors, etc..
• Adjust belt tension if necessary.
• Inspect condition of sheaves and pulleys.
• Grease bearings.
• Check rotation of fan wheel.
• If equipment is tied to BAS verify all components are communicating with front end.
• Report any abnormalities to owner.

Hot Water Heaters

Safety & Regulatory Compliance:
• Review manufacturer’s instructions.
• De-energize, lock out, and tag out electrical circuits as required.
Annual Inspection (To be performed per the following list and any manufacturer specific requirements):

- Check water pressure at the drain valve or hose bib. If water pressure is above 80 psi install a PRV. Set the PRV valve between 50-60psi to protect downstream appliances.
- Inspect the temperature and pressure relief valve per valve manufacturer instructions.
- Drain and flush the hot water tank. Drain 2-3 gallons. If water is milky, drain entire tank. Flush until water runs clean. Close drain valve and open cold water supply valve. Open a hot water faucet on the loop served by the water heater and let hot water run for 3 minutes to allow air to be removed from the system.
- Check and replace anode rods if necessary.
- Verify gas heat exchanger or electric heating element is in good working order. Replace if corroded or faulty.
- If equipment is tied to BAS verify all components are communicating with front end.
- Report any abnormalities to owner.

Gas Unit Heaters

Safety & Regulatory Compliance:

- Review manufacturer’s instructions.
- De-energize, lock out, and tag out electrical circuits as required.

Annual Inspection (To be performed per the following list and any manufacturer specific requirements):

- Check equipment, including fans, wiring, gas pipes, and venting systems, for any damage that may have occurred between inspections.
- If gas fired unit heater check and adjust manifold gas pressure. Inspect all gas connections for proper fit.
- Make sure the motor shaft turns correctly and check the power connections to the motor.
- Examine thermostats for cleanliness, connectivity, and correct temperature settings.
- Inspect burner tubes and make sure rodents or insects haven’t nested in the burner.
- Make sure venting systems are free of obstructions and check the cap and cleanout.
- Check condensate lines on high efficiency units.
- Be alert for indications of condensate leakage. Signs include water stains on the exterior of the vent pipe or rusting. This could be an indication of improper unit operation or vent configuration issues.
- Cycle power to the unit and take unit through start-up sequence. Verify there are no issues.
- Verify no combustible materials are stored within 36” of hot surfaces and heating elements.
- If equipment is tied to BAS verify all components are communicating with front end.
- Report any abnormalities to owner.

Electric Unit Heaters

Safety & Regulatory Compliance:

- Review manufacturer’s instructions.
- De-energize, lock out, and tag out electrical circuits as required.

Annual Inspection (To be performed per the following list and any manufacturer specific requirements):

- Check equipment, including fans, wiring, and heating elements for damage that may have occurred between inspections.
- Make sure the motor shaft turns correctly and check the power connections to the motor.
- Examine thermostats for cleanliness, connectivity, and correct temperature settings.
- Cycle power to the unit and take unit through start-up sequence. Verify there are no issues.
- Verify thermostat is in good working order.
- Verify no combustible materials are stored within 36” of heating elements.
- If equipment is tied to BAS verify all components are communicating with front end.
- Report any abnormalities to owner.
VAV Box (With or without hot water/electric reheat)

Safety & Regulatory Compliance:
• Review manufacturer’s instructions.
• De-energize, lock out, and tag out electrical circuits as required.

Annual Inspection (To be performed per the following list and any manufacturer specific requirements):
• Inspect unit for abnormal vibration or noise.
• If equipment is tied to BAS verify all components are communicating with front end.
• Check control set-points.
• Check for proper operation of relays, fan switches, and limit switches.
• Check blower components for appropriate operation and excessive dirt build up. Clean if required.
• Check blower fan condition, alignment, clearance, and proper rotation.
• Lubricate all moving parts as required.
• Check and log blower motor operating amperage if applicable (fan powered terminals).
• Verify cleanliness of hydronic/electric heating coil. Clean coil annually. Utilize steam or an environmentally friendly low VOC cleaner.
• Inspect hot water coils for leaks and proper flow. Blow-down coil annually to avoid solids build-up.
• Contractor/Vendor responsible for logging into BAS/DDC front end and exercising all components of box to verify proper communication and operation.
• Report any abnormalities to the owner.

Fan Coils and Unit Ventilators

Safety & Regulatory Compliance:
• Review manufacturer’s instructions.
• De-energize, lock out, and tag out electrical circuits.

Quarterly Operating Inspection:
• Visually inspect all equipment for proper operation and safety functions.
• Inspect unit for abnormal vibration or noise.
• Check for proper operation of relays, fan switches, and limit switches.
• Verify cleanliness of hydronic/electric heating coil. Clean coil at least bi-annually and then as needed. Utilize steam or an environmentally friendly low VOC cleaner.
• Check and clean condensate drain pan and drain.
• Check blower components for excessive dirt build-up.
• Check blower fan condition, alignment, clearance, and proper rotation.
• Lubricate all moving parts as required.
• Check and log blower motor operating amperage.
• Check for proper operation of strip heat if applicable.
• Check any and all refrigerant and water piping for leaks.
• Clean strainer on chilled/hot water unit if applicable.
• Replace filters. Match existing filter size/type.
• If equipment is tied to BAS verify all components are communicating with front end.
• Report any abnormalities to the owner.
Air Cooled Chillers

**Safety & Regulatory Compliance:**
- Review manufacturer’s instructions.
- De-energize, lock out, and tag out electrical circuits.
- Comply with the latest provisions of the Clean Air Act and EPA regulations as they apply to the protection of the ozone.
- Intentional release of refrigerant is prohibited. During the servicing, maintenance, and repair of refrigeration equipment all refrigerant must be recovered. All refrigerant recovered from Butler Tech equipment becomes property of Butler Tech.
- Whenever refrigerant is added or removed from equipment, record quantities on the appropriate forms.
- If disposal of equipment being maintained and/or repaired is needed, follow regulations detailing the removal of refrigerant and disposal of remaining parts/pieces.
- If materials containing refrigerants are discarded comply with EPA regulations where applicable.
- Refrigerant oil contained within compressors and other parts of the refrigerant system is to be removed and disposed of according to all applicable regulations.
- Follow all safety procedures described in the Safety Data Sheet for refrigerants, oils, and all other hazardous materials contained within equipment. Label all containers containing hazardous materials accordingly.

**Quarterly Operating Inspection:**
- Visually inspect all equipment for proper operation and safety functions. Check piping for leaks.
- Check all set-points for proper settings and functions.
- Check and clean/brush condenser coil at least twice annually and then as necessary. Utilize environmentally friendly cleaner.
- Test water quality if applicable (hardness, glycol, etc.).
- Check compressor motor temperature per manufacturer’s specifications.
- Check condition of insulation on all insulated components. Repair/Replace if necessary.
- Check motor load limit control setting per manufacturer’s specification.
- Check balance operation settings per manufacturer’s specification.
- Check chilled water reset settings and function per manufacturer’s specification.
- Check chilled water lockout setpoint per manufacturer’s specification.
- If equipment is tied to BAS verify all components are communicating with front end.
- Check and clean all valves, strainers, etc… Verify make-up water is functional.

**Annual Inspection:**
- Leak test all compressor fittings, oil pump joints and fittings, and relief valves.
- Check and assess evaporator tube fouling. Clean tubes annually. Utilize manufacturer approved cleaning process and cleaning agent.
- Check vane control settings per manufacturer’s specification if applicable.
- Check for proper control of the hot gas by-pass and liquid injection function.
- Check compressor motor and assembly alignments to manufacturer's specifications.
- Check all compressor motor assembly seals and provide lubrication as required.
- Conduct oil analysis on oil and filter. Change oil and filter as required.
- Check oil pump and seals.
- Check oil heater and thermostat.
- Check, exercise, and clean all valves and strainers etc.
- Check all electrical connections and tighten as required.
- Assess proper water flow in the evaporator tubes.
- Check refrigerant level and condition. Record amounts and address any leakage.
- Check for proper operation of all safeties.
- Conduct vibration analysis if suggested by manufacturer.
- Report any abnormalities to the owner.
Air Handling Units (DX, Chilled Water)

Safety & Regulatory Compliance:
- Review manufacturer’s instructions.
- De-energize, lock out, and tag out electrical circuits.
- Comply with the latest provisions of the Clean Air Act and EPA regulations as they apply to the protection of the ozone.
- Intentional release of refrigerant is prohibited. During the servicing, maintenance, and repair of refrigeration equipment all refrigerant must be recovered. All refrigerant recovered from Butler Tech equipment becomes property of Butler Tech.
- Whenever refrigerant is added or removed from equipment, record quantities on the appropriate forms.
- If disposal of equipment being maintained and/or repaired is needed, follow regulations detailing the removal of refrigerant and disposal of remaining parts/pieces.
- If materials containing refrigerants are discarded comply with EPA regulations where applicable.
- Refrigerant oil contained within compressors and other parts of the refrigerant system is to be removed and disposed of according to all applicable regulations.
- Follow all safety procedures described in the Safety Data Sheet for refrigerants, oils, and all other hazardous materials contained within equipment. Label all containers containing hazardous materials accordingly.

Quarterly Operating Inspection:
- Thoroughly inspect exterior of the air handler.
- Visually inspect all equipment for proper operation and safety functions.
- Check all set-points for proper settings and functions.
- Check condition of insulation on all insulated components. Repair/Replace if necessary.
- Inspect unit for abnormal vibration or noise.
- Check for proper operation of relays, fan switches, and limit switches.
- Verify freezestats are present and functional if applicable.
- Check and calibrate all safeties.
- Replace filters. Match existing filter size/type.
- Check and clean condensate drain pan and drain.
- Check for proper operation of condensate pump if applicable.
- Check blower components for excessive dirt build-up.
- Check blower fan condition, alignment, clearance, and proper rotation.
- Lubricate all moving parts as required.
- Check blower fan drive belt alignment, pulleys, and sheaves.
- Tension or replace blower fan drive belt as required.
- Check and log blower motor operating amperage.
- Check motor starter coils, contacts, connections and tighten as necessary.
- Check for proper operation of strip heat if applicable.
- Check evaporator coils for obstructions and leaks. Clean coil bi-annually and then as necessary with environmental friendly low VOC cleaner or steam.
- Check expansion valves for proper feed and superheat.
- Check temperature differential across the evaporator or chilled water coil.
- Clean evaporator coil if necessary.
- Check any and all refrigerant and water piping for leaks.
- Check any and all gas piping for leaks
- Change flame and spark rods as necessary.
- Clean strainer on chilled/hot water unit if applicable.
- If equipment is tied to BAS verify all components are communicating with front end.
- Report any abnormalities to the owner.
Package Rooftop Units

Safety & Regulatory Compliance:
- Review manufacturer’s instructions.
- De-energize, lock out, and tag out electrical circuits.
- Comply with the latest provisions of the Clean Air Act and EPA regulations as they apply to the protection of the ozone.
- Intentional release of refrigerant is prohibited. During the servicing, maintenance, and repair of refrigeration equipment all refrigerant must be recovered. All refrigerant recovered from Butler Tech equipment becomes property of Butler Tech.
- Whenever refrigerant is added or removed from equipment, record quantities on the appropriate forms.
- If disposal of equipment being maintained and/or repaired is needed, follow regulations detailing the removal of refrigerant and disposal of remaining parts/pieces.
- If materials containing refrigerants are discarded comply with EPA regulations where applicable.
- Refrigerant oil contained within compressors and other parts of the refrigeration system is to be removed and disposed of according to all applicable regulations.
- Follow all safety procedures described in the Safety Data Sheet for refrigerants, oils, and all other hazardous materials contained within equipment. Label all containers containing hazardous materials accordingly.

Quarterly Operating Inspection:
- Review and log all operating conditions. Check for proper condenser and evaporator approaches and ranges. Check oil level, temperature, and pressure.
- Look for any signs of oil or refrigerant leaks. Note if there is any noise/vibration.
- Check that the unit is operating with the proper temperature setpoints.
- Complete log sheet with all readings, temperatures, pressures, volts, amps, etc.
- Check and clean/brush condenser coil at least twice annually and then as necessary. Use environmentally friendly cleaning agent.
- Clean evaporator coil at least twice bi-annually and then as necessary. Utilize steam or an environmentally friendly low VOC cleaner.
- Check and calibrate safeties.
- Check expansion valves and log superheat.
- Check crankcase heater.
- Check unit charge and log.
- Check evaporator temperature and differential.
- Check and clean condensate pan and drain.
- Check economizer operation as required.
- Check motor operation.
- Check and adjust belts.
- Check drive condition.
- Check fan condition and proper rotation.
- Check all bearings for any play.
- Visually inspect shaft alignment.
- Check contactor and points.
- Check all electrical connections.
- Check heating gas or electric heating sections.
- Lubricate all moving parts as required.
- Install condensate pan pads/tabs.
- Check control set points.
- Replace filters. Match existing filter size/type.
- Complete any additional requirements detailed in OEM maintenance requirements.
- If equipment is tied to BAS verify all components are communicating with front end.
Computer Room Air Conditioners

Safety & Regulatory Compliance:

- Review manufacturer’s instructions.
- De-energize, lock out, and tag out electrical circuits.
- Comply with the latest provisions of the Clean Air Act and EPA regulations as they apply to the protection of the ozone.
- Intentional release of refrigerant is prohibited. During the servicing, maintenance, and repair of refrigeration equipment all refrigerant must be recovered. All refrigerant recovered from Butler Tech equipment becomes property of Butler Tech.
- Whenever refrigerant is added or removed from equipment, record quantities on the appropriate forms.
- If disposal of equipment being maintained and/or repaired is needed, follow regulations detailing the removal of refrigerant and disposal of remaining parts/pieces.
- If materials containing refrigerants are discarded comply with EPA regulations where applicable.
- Refrigerant oil contained within compressors and other parts of the refrigerant system is to be removed and disposed of according to all applicable regulations.
- Follow all safety procedures described in the Safety Data Sheet for refrigerants, oils, and all other hazardous materials contained within equipment. Label all containers containing hazardous materials accordingly.

Quarterly Operating Inspection:

- Thoroughly inspect the exterior and interior of the equipment.
- Review and log all operating conditions. Check for proper condenser and evaporator approaches and ranges. Check oil level, temperature, and pressure.
- Look for any signs of oil or refrigerant leaks. Note if there is any noise/vibration.
- Check that the unit is operating with the proper temperature setpoints.
- Complete log sheet with all readings, temperatures, pressures, volts, amps, etc.
- Check condenser coil conditions (cooling and reheat). Brush and clean coil(s) bi-annually and then as required. Utilize an environmentally friendly cleaning agent.
- Clean evaporator coil at least twice bi-annually and then as necessary. Utilize steam or an environmentally friendly low VOC cleaner.
- Check and calibrate safeties.
- Check expansion valves and log superheat.
- Check crankcase heater.
- Check unit charge and log.
- Check evaporator temperature and differential.
- Check and clean condensate pan and drain. Note any excessive corrosion.
- Lubricate motor and fan bearings, if not sealed.
- Check alignment of motor and fan.
- Check belt tension and condition. Adjust or replace as required.
- Replace pre-filters and final filters. Match existing filter size/type
- Check compressor operation.
- Run machine and check action of controls, relays, switches, etc. to see that compressor(s) run at proper settings.
- Verify reheat coils activate properly.
- If humidifier is present, verify humidistat activates humidifier.
- Verify correction suction and discharge pressures at compressor ports.
- Verify discharge air temperature is appropriately set and maintained.
- Check and adjust any vibration eliminators as required. Replace if needed.
- Check and tighten all electrical connections, terminals, fuses, and switches.
- If equipment is tied to BAS verify all components are communicating with front end.
• Review operation with facility management. Report any abnormalities.

**Data rooms must maintain a temperature equal to or less than 65 degrees Fahrenheit and must maintain humidity levels between 10-50%RH. If back-up cooling equipment is required to perform required maintenance on data room equipment while maintaining these requirements, the contractor/vendor awarded this contract shall provide temporary cooling equipment. All data room equipment maintenance shall be scheduled with IT as well as Facilities Management.**

Computer Room Units (Mini Splits, etc.)

Safety & Regulatory Compliance:
• Review manufacturer’s instructions.
• De-energize, lock out, and tag out electrical circuits.
• Comply with the latest provisions of the Clean Air Act and EPA regulations as they apply to the protection of the ozone.
• Intentional release of refrigerant is prohibited. During the servicing, maintenance, and repair of refrigeration equipment all refrigerant must be recovered. All refrigerant recovered from Butler Tech equipment becomes property of Butler Tech.
• Whenever refrigerant is added or removed from equipment, record quantities on the appropriate forms.
• If disposal of equipment being maintained and/or repaired is needed, follow regulations detailing the removal of refrigerant and disposal of remaining parts/pieces.
• If materials containing refrigerants are discarded comply with EPA regulations where applicable.
• Refrigerant oil contained within compressors and other parts of the refrigerant system is to be removed and disposed of according to all applicable regulations.
• Follow all safety procedures described in the Safety Data Sheet for refrigerants, oils, and all other hazardous materials contained within equipment. Label all containers containing hazardous materials accordingly.

Quarterly Operating Inspection:
• Review and follow manufacturer’s instructions.
• Check general operation of the equipment.
• Make minor repairs and adjustments if required.
• Clean and brush outdoor condenser coil bi-annually and then as necessary. Utilize environmentally friendly cleaning agent.
• Clean indoor evaporator coil at least twice bi-annually and then as necessary. Utilize steam or an environmentally friendly low VOC cleaner.
• Clean indoor evaporator condensate drain pan and verify drain is free flowing.
• Verify correct operation of indoor condensate pump.
• If equipment is tied to BAS verify all components are communicating with front end.
• Check all controls on equipment to insure proper operation.

Make-Up Air Units/DOAS (DX)

Safety & Regulatory Compliance:
• Review manufacturer’s instructions.
• De-energize, lock out, and tag out electrical circuits.
• Comply with the latest provisions of the Clean Air Act and EPA regulations as they apply to the protection of the ozone.
• Intentional release of refrigerant is prohibited. During the servicing, maintenance, and repair of refrigeration equipment all refrigerant must be recovered. All refrigerant recovered from Butler Tech equipment becomes property of Butler Tech.
• Whenever refrigerant is added or removed from equipment, record quantities on the appropriate forms.
• If disposal of equipment being maintained and/or repaired is needed, follow regulations detailing the removal of refrigerant and disposal of remaining parts/pieces.
• If materials containing refrigerants are discarded comply with EPA regulations where applicable.
Refrigerant oil contained within compressors and other parts of the refrigerant system is to be removed and disposed of according to all applicable regulations.

Follow all safety procedures described in the Safety Data Sheet for refrigerants, oils, and all other hazardous materials contained within equipment. Label all containers containing hazardous materials accordingly.

**Quarterly Operating Inspection:**

- Review and log all operating conditions. Check for proper condenser and evaporator approaches and ranges. Check oil level, temperature, and pressure.
- Look for any signs of oil or refrigerant leaks. Note if there is any noise/vibration.
- Check that the unit is operating with the proper temperature setpoints.
- Complete log sheet with all readings, temperatures, pressures, volts, amps, etc.
- Check and clean/brush condenser coil at least twice annually and then as necessary. Utilize environmentally friendly cleaning agent.
- Clean evaporator coil at least twice bi-annually and then as necessary. Utilize steam or an environmentally friendly low VOC cleaner.
- Check and calibrate safeties.
- Check expansion valves and log superheat.
- Check crankcase heater.
- Check unit charge and log.
- Check evaporator temperature and differential.
- Check and clean condensate pan and drain.
- Check economizer operation as required.
- Check motor operation.
- Check and adjust belts.
- Check drive condition.
- Check fan condition and proper rotation.
- Check all bearings for any play.
- Visually inspect shaft alignment.
- Check contactor and points.
- Check all electrical connections.
- Check heating gas or electric heating sections.
- Lubricate all moving parts as required.
- Install condensate pan pads/tabs.
- Check control set points.
- Replace filters. Match existing filter size/type.
- Complete any additional requirements detailed in OEM maintenance requirements.
- If equipment is tied to BAS verify all components are communicating with front end.

**Vaneaxial Fans**

**Safety & Regulatory Compliance:**

- Review manufacturer’s instructions.
- De-energize, lock out, and tag out electrical circuits as required.

**Quarterly Operating Inspections** (Includes items listed below and any additional tasks required by specific manufacturers to be performed):

- Check that unit is operating with proper control setpoints/inputs.
- Clean the fan rotor assembly.
• Check blade shafts for tightness
• Check blade tip clearance
• Check and document overall condition of the fan.
• Inspect and check all starter and motor connections for tightness and signs of overheating contacts and pitting overloads.
• Measure and record motor voltages and amperages.
• Inspect and adjust any static pressure controls.
• Lubricate blade links, blade bearings, and the fan motor bearings.
• Check that all panels and safety guards are secured tight.
• Any and all system air balancing is not included in this agreement.
• If equipment is tied to BAS verify all components are communicating with front end.
• Review operation with facility management. Report any abnormalities.

Infrared Tube Heaters

Safety & Regulatory Compliance:
• Review manufacturer’s instructions.
• De-energize, lock out, and tag out electrical circuits as required.

Annual Inspection (To be performed per the following list and any manufacturer specific requirements):
• Inspections and maintenance to be done per specific manufacturer instructions. Complete these and any additional requirements specified by the manufacturer.
• Verify no flammable objects, liquids, or vapors are stored near the heater.
• Verify nothing is lodged underneath the reflector, in between the tubes or in the decorative or protective grilles.
• Verify heater surfaces are clean. Clean with damp cloth if needed.
• Look for dirt, obstructions, corrosion, cracks, or gaps on the vent pipe and outdoor air inlets. Clean, repair, or replace as required. Remove any carbon deposits or scale from vent pipe using a wire brush.
• Verify heat exchanger tube is connected and suspended securely. Clean or repair as required.
• Check for gas leaks per the O&M Manual.
• Verify the burner observation window is clean and free of cracks or holes. Clean or replace as required.
• Replace igniter and electrode if cracked, broke, eroded, or showing signs of wear and tear.
• Verify thermostats, sensors, and control devices are intact and functioning appropriately.
• Look for wear and tear on suspension chains. Repair or replace as required.
• Verify heat exchanger tube couplings are tight.
• If equipment is tied to BAS verify all components are communicating with front end.
• Review operation with facility management. Report any abnormalities.

Air Compressors

Safety & Regulatory Compliance:
• Review manufacturer’s instructions.
• De-energize, lock out, and tag out electrical circuits as required.

Annual Inspection (To be performed per the following list and any manufacturer specific requirements):
• Inspections and maintenance to be done per specific manufacturer instructions. Complete these and any additional requirements specified by the manufacturer.
• Verify oil levels and change compressor crankcase oil as required.
• Clean or replace air intake filter.
• Check air dryer, automatic condensate drain, and air tank for proper operation.
• Clean condenser coils or grille.
• Inspect belt alignment and condition, adjust or replace belts as required.
• Check for corrosion and scale on water-cooled units.
• Verify solenoid is working appropriately on water-cooled units.
• Clean heat exchange surfaces.
• Verify gauges are functional and accurate.
• On two-state compressors, check intermediate pressure.
• Test relief valves. Replace if leaking or if relief range is not correct for system.
• Check compressor unloaders for proper operation.
• Check compressor suction and discharge valves for proper operation.
• Check cut-in and cut-out compressor pressure controller.
• Verify belt-guard is in place and secured.
• Check compressor run time and change lead/lag compressor as required to disburse run-time equally for duplex and triplex installations.
• If equipment is tied to BAS verify all components are communicating with front end.
• Review operation with facility management. Report any abnormalities.

Expansion Tanks

Preventative Maintenance of Expansion Tanks not included in this agreement.

Air Separators

Preventative Maintenance of Air Separators not included in this agreement.

Variable Frequency Drives

Preventative Maintenance of Variable Frequency Drives not included in this agreement.

Backflow Preventer/RPZ

Preventative Maintenance and testing of Backflow Preventers/RPZ not included in this agreement.
Air Driers (Desiccant and Refrigerant)

Safety & Regulatory Compliance:
- Review manufacturer’s instructions.
- De-energize, lock out, and tag out electrical circuits.
- Comply with the latest provisions of the Clean Air Act and EPA regulations as they apply to the protection of the ozone.
- Intentional release of refrigerant is prohibited. During the servicing, maintenance, and repair of refrigeration equipment all refrigerant must be recovered. All refrigerant recovered from Butler Tech equipment becomes property of Butler Tech.
- Whenever refrigerant is added or removed from equipment, record quantities on the appropriate forms.
- If disposal of equipment being maintained and/or repaired is needed, follow regulations detailing the removal of refrigerant and disposal of remaining parts/pieces.
- If materials containing refrigerants are discarded comply with EPA regulations where applicable.
- Refrigerant oil contained within compressors and other parts of the refrigerant system is to be removed and disposed of according to all applicable regulations.
- If equipment is tied to BAS verify all components are communicating with front end.
- Follow all safety procedures described in the Safety Data Sheet for refrigerants, oils, and all other hazardous materials contained within equipment. Label all containers containing hazardous materials accordingly.

Annual Inspection (To be performed per the following list and any manufacturer specific requirements):
- Inspections and maintenance to be done per specific manufacturer instructions. Complete these and any additional requirements specified by the manufacturer.
- Lubricate valves and replace packing if necessary.
- Check dryer operating cycle.
- Inspect and clean heat exchanger.
- Check outlet air dew point.
- Clean and lubricate blower.
- Check function of automatic blow-down. Verify trapped moisture goes to drain.
- Inspect and clean/replace inlet filters.
- Check traps. (Refrigerated Type)
- Check refrigerant level and moisture content. If low level or moisture is indicated, check for refrigerant leaks using a halogen leak detector or similar device. If leaks cannot be stopped or corrected, report to facility management. (Refrigerated Type)
- Clean and lubricate condenser fan motor. (Refrigerated Type)
- Replace filter cartridges, both pre-filter and post-filter. (Desiccant Type)
- Check the inlet flow pressure, temperature, and purge rate. (Desiccant Type)
- Check the desiccant and replace if necessary. (Desiccant Type)
- Inspect and clean solenoids, purge valves, and strainers. (Desiccant Type)

Powerex Vacuum Pump

Safety & Regulatory Compliance:
- Review manufacturer’s instructions.
- De-energize, lock out, and tag out electrical circuits as required.

Quarterly Operating Inspections (To be performed per the following list and any manufacturer specific requirements):
• Check vacuum pump run time and change lead/lag pump as required to disburse run-time equally for duplex and triplex installations.
• Inspect machine and all mechanical connections to verify they aren’t damaged and working freely.
• Check exhaust drip leg for accumulated moisture and drain as needed.
• Top off gear oil as needed.
• Check automatic drain and air tank for proper operation.
• Clean heat exchange surfaces.
• Verify gauges are functional and accurate.
• Check cut-in and cut-out vacuum pump pressure controller.
• Lubricate all rotating parts as needed.
• Test any pressure alarms.
• If equipment is tied to BAS verify all components are communicating with front end.
• Review operation with facility management. Report any abnormalities.

Annual Inspection (To be performed per the following list and any manufacturer specific requirements):

• Replace air intake filters.
• Change gear oil.
• Leak check main vacuum lines in mechanical room.

Hydronic Water Quality Management (Chemicals and Water Softeners):

Hydronic Water Quality Management (Chemicals and Softeners):
• The contractor/vendor awarded this contract will be responsible for maintaining water quality in all hydronic heating and cooling system primary and secondary loops as applicable at all 5 campus locations (All boiler and chiller primary and secondary loops at all 5 campuses).
• Water quality for all hydronic loops to meet industry standards as well as equipment manufacturer requirements to inhibit hardness, solids, corrosives, biologics, pitting, and scale formation on metal surfaces that are in continuous contact with water.
• Contractor/vendor responsible for all periodic water testing and analysis to ensure water quality requirements for all loops is met. Testing and analysis to be conducted by a third party at least quarterly (or as often as necessary to maintain appropriate water quality). Copies of all testing and analysis reports to be provided to Butler Tech.
• Contractor/vendor is responsible for furnishing all applicable chemicals and labor/equipment required to introduce chemicals into the hydronic loops. Invoices detailing volume and type of chemicals are to be provided for all deliveries.
• Contractor/vendor is responsible for furnishing, installing, and maintaining all metered chemical pump equipment as required.
• Contractor/vendor is responsible for blowing down or flushing equipment and loops as required to maintain loop water quality.
• Contractor/vendor responsible for the maintenance and repair of all existing water softeners.
• Contractor/vendor responsible for providing supervision and labor whenever it is necessary to change resin in softeners. Resin to be billed to Butler Tech separately.
• Contractor/vendor responsible for maintaining water quality in all hydronic loops at all 5 campuses. If contractor/vendor awarded the contract for water quality management neglects their duties and allows the water quality to fall below required standards the contractor/vendor will be liable for any damages to equipment, systems, pipes, and coils as a result of their negligence.
**Pricing for this scope of work to be provided separate from equipment Preventative and On-Call Maintenance.**

**Building Automation System (24/7 Monitoring)**

**Pricing for this scope of work to be provided separate from equipment Preventative and On-Call Maintenance.**

BAS Services (Monitoring/Acknowledging Alarms Only):

- Contractor/vendor to monitor the web-based BAS 24/7 and acknowledge all alarms and any communication losses at all campuses.
- Contractor/vendor to dispatch maintenance personnel to make any required repairs that cannot be handled through the web-based DDC/BAS.
- Contractor is responsible for scheduling and over-sight of all DDC/BAS repairs.

**Pricing for this scope of work to be provided separate from equipment Preventative and On-Call Maintenance.**
**Attachment B (Asset List By Location):**

Fairfield Township Campus ERC Building  
3603 Hamilton-Middletown Road  
Fairfield Township, OH 45011

<table>
<thead>
<tr>
<th>Quantity</th>
<th>Description</th>
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<th>Model Number</th>
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Monroe Campus (Natural Science Center)
640 Hamilton Lebanon Road
Monroe, OH 45050

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West Chester Campus (Bioscience Center) 8450 Capstone Blvd.
West Chester, OH 45069

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Attachment C (Undocumented Workers Clause):

Undocumented Workers Performing Under Public Contracts for Services:

Contractor shall not knowingly employ or contract with an undocumented worker to perform work under this Agreement and shall not enter into a contract with a subcontractor unless the subcontractor certifies in writing to the Vendor/Contractor that the subcontractor does not knowingly employ or contract with undocumented workers to perform work under this Agreement. A copy of the subcontractor’s certification must be provided to Butler Tech.

Contractor certifies that it has verified or attempted to verify that the Contractor does not employ any undocumented workers.

If Contractor obtains actual knowledge that a subcontractor performing work under this Agreement knowingly employs or contracts with an undocumented worker, the Contractor shall:

   Notify the subcontractor and Butler Tech within three (3) days of when the Contractor has actual knowledge that the subcontractor is employing or contracting with an undocumented worker; and

   Terminate the subcontract if within three (3) days of receiving the notice required above, the subcontractor does not discontinue employing or contracting with the undocumented worker(s); except that the Contractor shall not terminate the subcontract if during such three (3) days the subcontractor provides information to establish that the subcontractor has not knowingly employed or contracted an undocumented worker. Contractor shall comply with all reasonable requests by the Department of Labor.

If the Contractor violates any of the requirements under this contract section, Butler Tech may terminate the Agreement for breach of contract. The Contractor shall be liable for actual and consequential damages to Butler Tech.

The above provision will be made a part of the Agreement or Contract between Butler Tech and ________________________________ (Name of Company).

Accepted by: __________________________ Date: ________________________

Print name: ____________________________ Title: ________________________
Attachment D (Non-Collusive Bid Agreement Form):

By submission of this bid proposal, each Contractor/Vendor and each person signing this bid proposal on behalf of each Contractor/Vendor certifies, and in the case of a joint bid, each party certifies as to its own company, under penalty of perjury, that to the best of their knowledge and belief:

1. The prices in this bid have been arrived at independently, without collusion, consultation, communication, or agreement, for the purpose of restricting competition, as to any matter relating to such prices, with any other bidder, or with any other competitor.

2. Unless otherwise required by law, the prices which have been quoted in this bid have not been knowingly disclosed by the bidder, and will not knowingly be disclosed by the bidder prior to the bid opening, directly or indirectly, to any other bidder, or to any competitor.

3. No attempt has been made or will be made by the bidder to induce any other person, partnership, or corporation to submit or not to submit a bid for the purpose of restricting competition.

If the Vendor/Contractor violates any of the requirements under this contract section, Butler Tech may terminate the agreement for breach of contract. The Vendor/Contractor shall be liable for actual and consequential damages to Butler Tech.

The above provision will be made a part of the agreement or contract between Butler Tech and _________________________________________(Name of Company).

Accepted by: __________________________ Date: ________________________

Print name: ____________________________ Title: _______________________

__________
Attachment E (Quote Submission Form):

PROPOSAL: Butler Tech Multi-Site Refrigeration & HVAC Equipment Maintenance Agreement

BUTLER TECH CONTACT: Steve Von Bargen; vonbargens@butlertech.org

RESPONDING CONTRACTOR/VENDOR INFORMATION:

Company ____________________________________________________________

Address ____________________________________________________________

City, State, Zip ______________________________________________________

Phone ______________________ E-mail ____________________________

Authorized signature _______________________________________________

Printed name, title __________________________________________________

Signature acknowledges that the Proposer:

- Has reviewed all instructions, specifications, terms and conditions in the RFP to ensure that this proposal complies.
- Is able to and will meet all insurance requirements set forth in the RFP and has provided requested documentation.
- Is able to and will fulfill the obligations in accordance with the Scope of Work and other specifications, terms and conditions.
- Has included the following in the proposal:

  1. All state, county, and local licenses and/or certificates to prove the vendor’s qualifications in HVAC installation, maintenance, and repair.

  2. At least three (3) references for which your firm provided maintenance services for equipment similar to that found in Attachment B.

  3. A signed copy of the Undocumented Worker Clause (Attachment D).

  4. A signed copy of the Non-Collusive Bid Agreement form (Attachment F).
PREVENTATIVE AND ON-CALL MAINTENANCE PRICING INFORMATION
FOR 5 CAMPUS LOCATIONS:

Fairfield Township Campus
3603 Hamilton-Middletown Road
Fairfield Township, OH 45011

Preventative Maintenance: $_________________/year

On-Call Maintenance Service: $_________________/year
                        $_________________/hour/technician

LeSourdsville Campus 101 Jerry Couch Blvd.
Middletown, OH 45044

Preventative Maintenance: $_________________/year

On-Call Maintenance Service: $_________________/year
                        $_________________/hour/technician

Liberty Campus (Public Safety Education Complex)
5140 Princeton-Glendale Road
Liberty Township, OH 45011

Preventative Maintenance: $_________________/year

On-Call Maintenance Service: $_________________/year
                        $_________________/hour/technician

Monroe Campus (Natural Science Center)
640 Hamilton Lebanon Road
Monroe, OH 45050

Preventative Maintenance: $_________________/year

On-Call Maintenance Service: $_________________/year
                        $_________________/hour/technician

West Chester Campus (Bioscience Center) 8450 Capstone Blvd.
West Chester, OH 45069

Preventative Maintenance: $_________________/year

On-Call Maintenance Service: $_________________/year
                        $_________________/hour/technician

Total Annual Fee For Preventative and On-Call Maintenance At All 5 Campus Locations

Preventative Maintenance: $_________________/year

On-Call Maintenance Service: $_________________/year
Alternate #1
Pricing For 24/7 BAS Monitoring Service (See Attachment A for Scope Of Work)

Annual Fee: $_______________/year

Alternate #2
Pricing For Chemical Water Quality Management Per The Scope Of Work (Attachment A)

Annual Fee: $_______________/year