2022 Refrigeration PM

Instructions & Definitions:

Instructions-

PM's are the priority during the PM service call. If a tech is on site and is asked to focus on another issue by an Operations Leader; Technician is to not deviate from the PM service call unless given permission by the Regional Portfolio Manager (RPM). RPM will make that determination if request warrants a change in service call priorities.
PM will be quoted as a fixed PM cost. Do not include PM service call repairs or follow up repair cost in the PM quote. Follow up WO or Quote will be required for any PM service repairs or spares needed.PM cost should only iclude related time and labor for each PM task.
Expectation is to make adjustments, tighten or replace consumable benchstock items during PM service call. (See definition for consumable benchstock). Do not charge PM for additional repairs. If repairs are needed during PM service call or a follow up repair is required, Amazon standard work practice is to create a follow up Quote for repairs or a follow up Work Order. Follow up Quotes or Work Orders can be emailed to: amoc-follow-up@amazon.com; amoc-proposals-quotes@amazon.com
Besides cost per task, we would also like suppliers to bid per site based on these tasks. Please populate per site cost in "PM Pricing per site"sheet
We recommend the supplier conduct a site visit for site familiarity and accurate bid costs. Suppliers should conduct an equipment inventory after the bid is awarded.

Definitions:

Consumable Benchstock: Items such as common expendable items such as nuts, bolts, screws, lugs, fastening devices, rivets, terminals, and plumbing fittings (excluding electronic components such as resistors, diodes, transistors, capacitors and integrated circuits) having a low unit price per item.

PM Task List			
SELF CONTAINED (Reach-in Coolers/Freezers) EQUIPMENT TASKS	Time	Frequency	Quarterly Pricing (flat rate)
Vacuum or pressure wash each condensor coil. Verify fins are not damaged. Provide pictures of cleaned condensor coils.	0.12	Quarterly	
Clean condenser fan. Rotate fan blades to Inspect for imbalance, bearing wear or wobble/hitching during rotation. Note any abnormal noise or vibration during directional motor rotation. Provide pictures of condensor fan after cleaning.	0.12	Quarterly	
Inspect fan guards for damage. Ensure that they are in place and clean. Clean condensate pan and verify operation of condensate pan heater. Inspect for blockage in the drain pan, verify float for operation, and validate condensate pan heater operation by amperage draw. Provide pictures of cleaned condensate pan and pan heater amperage reading.	0.2	Quarterly	
Clean evaporator fins, fan blade and fan guard. Remove ice build up, verify fins are not damaged, verify fan guard is secure and not damaged. Note any conditions found and provide pictures of the work performed.	0.2	Quarterly	
Inspect door gaskets for damage. Review gaskets for visual damage and perform a pull test to validate gasket performance/integrity. Note any abnormal openning or closing based on the gaskets. Make repairs/ clean gaskets as needed.	0.08	Quarterly	
Verify operation of anti-sweat heaters. Inspect for physical damage and Inspect continuity. Note any conditions found and make repairs as needed.	0.03	Quarterly	

Verify tightness of all electrical connections. Inspect connections for corrosion or damage. Inspect control harness connection and door harness for damage. Note any conditions found and make repairs as needed.	0.08	Quarterly	
Inspect fit and finish of all panels and trim. Verify panels are secure (screws/bolts/clips). Note conditions found and repair as needed.	0.03	Quarterly	
Verify operation of hinge by opening/closing doors and verifying hardware is properly secured with a ratchet, torque wrench or any other fastening tool.	0.03	Quarterly	
Ensure that door hinges are fastened tightly to the case. Note any condition found and secure as needed.	0.03	Quarterly	
Verify the fan switch controls the fan and the fan comes on when the door is closed. Note any fans that are inoperable and repair as needed.	0.03	Quarterly	
Inspect operating temperature in the controller and use a pressure guage to verify the operating pressure. Note any conditions found and make repairs as needed.	0.08	Quarterly	
Inspect light sockets for damage. Note any conditions found and make repairs as needed.	0.03	Quarterly	
Ensure that temperature sensor is mounted in return air stream of case. Note any conditions found and make repairs as needed.	0.05	Quarterly	
Ensure the product emulator is located in the interior of the case, in the lower, back & LH corner. Note any conditions found and make repairs as needed.	0.03	Quarterly	
Verify the case is visible at the E2 panel and the temperature can be monitored through the E2 & remotely. Note any conditions found and schedule repairs.	0.08	Quarterly	
Note any additional refrigerated equipment that is on site and is not monitored through the E2 control panel.	0.03	Quarterly	
Check castors for corrosion. Wipe with damp cloth as necessary. Lubricate per manufacturer's specification.	0.03	Quarterly	
Check insulation and areas of moisture accumulation for biological growth. Clean or disinfect as necessary	0.03	Quarterly	
Check refrigeration tubing is not rubbing or vibrating against other tubing or panels. Correct as necessary	0.03	Quarterly	
Check condenser for adequate air flow and no recirculation of discharge air.Clean the louvers on the downstream side of the condenser and/or gravity dampers if applicable. Ensure that the fan shroud is present and intact	0.03	Quarterly	
Leak Inspect All Systems and piping **(Must complete Leak inspection form and the form must be uploaded into Ezrme for validation)** (Please provide pictures of leaks found)	0.03	Quarterly	
Check the shelves inside the cabinet and make sure it's installed properly	0.03	Quarterly	
Inspect the interior of the reach in cabinets. Remove ice build up from the wall and evaporator coils. Clean properly	0.03	Quarterly	

Remove kickplate and clean underneath the case with a broom and long handled mop. Use warm water and disinfecting cleaning solution while cleaning underneath the cases as applicable	0.03	Quarterly	
Inspect the TXV strainer(wherever applicable) and clean it if it is plugged with debris.	0.03	Quarterly	
Inspect evaporators for dirt/debris. Clean as needed.	0.03	Quarterly	
Check the return air grill and fix/replace it if needed as applicable. Make sure there is no obstruction	0.03	Quarterly	
REMOTE Case Only Check all sensors including defrost termination, TXV bulb and discharge air sensor and make sure they are placed at correct location and mounted correctly (wherever applicable)	0.03	Quarterly	
REMOTE Case Only Check honeycomb for any damage and fix/replace it if needed. Check the discharge air flow near honey comb and make sure it's as per design spec (Refer the OEM I/O manual)- wherever applicable	0.03	Quarterly	
REMOTE Case Only Check the superheat at the evaporatotor and make sure it is as per design spec(Refer the OEM I/O manual) (wherever applicable)	0.03	Quarterly	
REMOTE Case Only Remove the bottom panel and inspect defrost and drain pan heaters for any damage. Ensure that there is sufficient clearance between the fan motor, electrical wiring and the copper components of the evaporator coil check direction of fan. Ensure that heaters are not touching fan motors or wiring harness during operation. Remove any dust, debris or unwanted food material and clean the drain pan with fresh / soap water. The wiring harness, fan motor terminals and heater terminals are all securely zip tied and routed to avoid any damage, electrical short circuit or fire hazards.Inspect harness connection at motor, at heater terminal block, and at any plug connections and make sure it's connected secured.	0.03	Bi-Annually	
COMPRESSOR/RACKS TASKS:	Time	Frequency	Quarterly Pricing (flat rate)
Leak Inspect All Systems and piping **(Must complete Leak inspection form and the form must be uploaded into Ezrme for validation)** (Please provide pictures of leaks found)	8.00	Quarterly	
Visually Inspect refrigeration compressors and compressor rack for visible signs of vibration. Inspect the mounting fastners for any kind of looseness and tighten them as needed. Inspect for piping vibration, noise and recommend any vibration reduction method for evaluation.	0.95	Quarterly	
Visually Inspect refrigeration compressors, refrigeration compressor rack, for visible signs of oil residue. Note any conditions found and provide pictures.	0.15	Quarterly	
Review each sight glass and verify that oil levels are between 1/3 and 1/2 of glass. Note any conditions found and fill to appropriate level.	0.12	Quarterly	
Loose or Missing Covers: Review all covers, cover plates, etc. Note any conditions found and provide pictures of damage found. Secure or replace as needed.	0.15	Quarterly	

Inspect the compressors racks for any abnormal noise. Note any conditions found and repair as needed.	0.03	Quarterly	
Valve Caps: Review each valve and ensure that all valves have valve caps in place. Note any conditions found and replace as needed.	0.15	Quarterly	
Inspect refrigeration system for non-condensibles. Inspect the sight glass for any moisture in the system. Note any conditions found, properly vaccum the system and charge with fresh refrigerant. Change the filter drier if needed.	0.08	Quarterly	
Perform the acid test analysis using test kit for refrigeration compressor oil. If the oil is contaminated and/or acidic, note the condition and replace oil.	0.15	Quarterly	
High/Low Pressure Switches: Verify settings and operation of switch is optimal and reset. Note any conditions found and replace if switches do not meet design specification.	0.45	Quarterly	
Oil Failure Switch: Verify settings and operation of switch. Reset if it's not as per design spec.	0.75	Quarterly	
Inspect oil pressure and verify it is to design spec. Note any conditions found.	0.75	Quarterly	
Verify tightness of all electrical connections. Note any conditions found and repair as needed.	0.75	Quarterly	
If system is so equipped, inspect subcooler for oil residue.	0.45	Quarterly	
If system is so equipped with Sensors/Transducers, verify that temperature sensors are attached to piping and the transducer is sensing the pressure correctly. Note any conditions found, provide pictures of damaged components found and complete repairs as needed.	0.45	Quarterly	
Are subcoolers fully operational? Note any conditions found, provide pictures of damage components found and complete repairs as needed.	0.45	Quarterly	
Inspect vessle for oil residue and verify oil management system is performing. Note any conditions found, provide pictures and complete repairs as needed.	0.45	Quarterly	
Inspect PSI drop on seperator (if applicable). Verify manufacturer's recommendation for PSI drop. Note any conditions found and repair as needed.	0.45	Quarterly	
Inspect sight glass and verify oil level. The oil level should be as per manufacture's recommendation. Note any conditions found and fill as required.	0.45	Quarterly	
Measure the temperature differential across the liquid line drier. Quote replacement if temperature delta is more than 5 degrees.	0.25	Quarterly	
Check cooling fan for control cabinet and VFDs. Clean, repair and replace as needed	0.12	Quarterly	
Check compressor cooling device (demand cooling and head fans) as applicable. Repair or replace as needed	0.12	Quarterly	
Record mega ohm value for each compressor.Report inconsistency if applicable	0.12	Quarterly	

Check pressure drop across the lubricant filter. Replace if pressure drop exceeds OEM's limits	0.12	Quarterly	
Check de-superheater operation if applicable. Adjust, repair or replace as needed	0.12	Quarterly	
Check the integrity of the fan blades. Note blades that don't match with OEM blades. Notify and replace as needed	0.12	Quarterly	
Check phase monitor settings and record the supply voltage. Notify the designated individual if the setting has been changed between inspection	0.12	Quarterly	
Check ay unusal vibration transmitted through the system piping. The vibration can result in brazed joint being compromised. Action should be taken to fix it and reported to the designated individual	0.12	Quarterly	
Check condenser flooding valves (during periods of low ambient temperature).Adjust, replace or repair as needed	0.12	Quarterly	
Check on-board pressure transducer and temerature sensors read correct. Log result and compre to the trend.If critical determine the cause and notify the designated individual	0.12	Quarterly	
Check crank case heaters for proper operation. Notify the designated individual if the crankcase heaters don't turn off when the compressor is on or the oil temperature is not at OEM specification. Adjust, repair or replace as needed	0.12	Quarterly	
Check oil failure system deactivation control. Replace repair or adjust as needed. Notify the designated individual if the oil system safety switches are not operating properly	0.12	Quarterly	
Inspect integrity of conduit runs serving refrigeration equipment. Note any conditions found, identify the root cause and make repairs as needed. (Grocery DC sites only: PM task does not apply to sites)	0.75	Quarterly	
CONDENSER UNIT TASKS	Time	Frequency	Quarterly Pricing (flat rate)
Leak Inspect All Systems and piping **(Must complete Leak inspection form and the form must be uploaded into Ezrme for validation)** (Please provide pictures of leaks found)	5.00	Quarterly	
Visually Inspect refrigeration compressors for visible signs of vibration. Inspect the mounting fastners for any kind of looseness and tighten them as needed. Inspect for piping vibration, noise and recommend any vibration reduction method for evaluation.	0.40	Quarterly	
Visually Inspect refrigeration compressors, and condensing units for visible signs of oil residue. Note any conditions found and provide pictures.	0.15	Quarterly	
Review each sight glass and verify that oil levels are between 1/3 and 1/2 of glass. Note any conditions found and fill to appropriate level.	0.02	Quarterly	
Review each sight glass for foam. Note any conditions found, provide pictures of damage found, and repair as needed.	0.03	Quarterly	

Loose or Missing Covers: Review all covers, cover plates, etc. Note any conditions found and provide pictures of damage found. Secure or replace as needed.	0.05	Quarterly	
Inspect the condensing units for any abnormal noise. Note any conditions found and repair as needed.	0.03	Quarterly	
Valve Caps: Review each valve and ensure that all valves have valve caps in place. Note any conditions found and replace as needed.	0.15	Quarterly	
Inspect refrigeration system for non-condensibles. Inspect the sight glass for any moisture in the system. Note any conditions found, properly vaccum the system and charge with fresh refrigerant. Change the filter drier if needed.	0.07	Quarterly	
Perform the acid test analysis using test kit for refrigeration compressor oil. If the oil is contaminated and/or acidic, note the condition and replace oil.	0.15	Quarterly	
High/Low Pressure Switches: Verify settings and operation of switch is optimal and reset. Note any conditions found and replace if switches do not meet design specification.	0.30	Quarterly	
Oil Failure Switch: Verify settings and operation of switch. Reset if it's not as per design spec.	0.50	Quarterly	
Inspect oil pressure and verify it is to design spec. Note any conditions found.	0.50	Quarterly	
Verify tightness of all electrical connections. Note any conditions found and repair as needed.	0.15	Quarterly	
Inspect sight glass and verify oil level. The oil level should be as per manufacture's recommendation. Note any conditions found and fill as required.	0.45	Quarterly	
Measure the temperature differential across the liquid line drier. Quote replacement if temperature delta is more than 5 degrees.	0.25	Quarterly	
Check condenser for cleanliness. Clean as needed and provide the pics after the cleaning.	0.03	Quarterly	
Check condenser fan for proper operation. Repair or replace as necessary	0.03	Quarterly	
Check suction and discharge temperature as per specification.Evaluate that temperatures are in proper range.If out determine cause and advise owner of needed repairs	0.03	Quarterly	
Check compressor amperes, voltage and voltage balance.Evaluate that amperes, voltage and voltage balance are in proper range. If out determine cause and advise owner of needed repairs	0.03	Quarterly	
Check all compressor operating control(i.e low ambient control) and safety controls. Adjust or repair as necessary	0.03	Quarterly	
Check defrost controls.Adjust or repair as necessary	0.03	Quarterly	
Inspect integrity of conduit runs serving refrigeration equipment. Note any conditions found, identify the root cause and make repairs as needed. (Grocery DC sites only: PM task does not apply to sites)	0.75	Quarterly	
ADIABATIC CONDENSER/EVAPORATIVE CONDENSER TASKS:	Time	Frequency	Quarterly Pricing (flat rate)

Verify condenser fan is rotating in the appropriate direction. Note any abnormal noise or vibration during directional rotation. (Grocery DC sites only: Local RME will perform task)	0.08	Quarterly	
Inspect bearings for appropriate lubircation. Note any abnormal noise during inspection and lubricate as required. (Grocery DC sites only: Local RME will perform task)	0.25	Quarterly	
Inspect for broken, missing, or loose fan guards. Note any conditions found, provide pictures of damage components found and repair as needed. (Grocery DC sites only: Local RME will perform task)	0.25	Quarterly	
Loose Panels/Components: Inspect all panels and covers. Note any conditions found, provide pictures of damage components found and repair as needed. (Grocery DC Only: Local RME will perform task)	0.25	Quarterly	
Valve Caps: Inspect all valves to ensure that valve caps are in place. Note any conditions found and replace valve caps as needed. (Grocery DC Only: Local RME will perform task)	0.08	Quarterly	
Inspect inlet side of condenser for dirt, cotton, or other debris that will impact air flow. Note any conditions found and provide pictures after cleaning. (Groery DC Only: Local RME will perform task)	0.08	Quarterly	
Verify airflow across the condenser by using an anemometer. Note any conditions found with pictures and pressure wash coils as needed. (Groery DC Only: Local RME will perform task)	0.50	Quarterly	
Pressure wash condenser. Note any conditions found and provide pictures after completing pressure washing. (Groery DC Only: Local RME will perform task)	12.50	Quarterly	
Inspect condenser and sump for scaling, dirt, debris. Note any conditions found and provide pictures after scaling or debris has been removed. (Groery DC Only: Local RME will perform task)	1.00	Quarterly	
Verify tightness by conducting push/pull wire tightness test of all electrical connections. (Groery DC Only: Local RME will perform task)	0.50	Quarterly	
If applicable: Inspect belt tension. Expectation is to tighten or replace consumable benchstock during PM. Any repair spares requires follow up PM Quote or Work Order. Replace belts every 6 months. (Groery DC Only: Local RME will perform task)	0.50	Quarterly	
WALK-IN COOLER/FREEZER BOX TASKS:	Time	Frequency	Quarterly Pricing (flat rate)
Inspect interior and exterior box for condensation issues or ice build up. Note any conditions found, provide pictures and complete repairs as needed.	0.04	Quarterly	
Inspect freezer floor along walls, and across doorways for ice build up. Note any conditions found, provide pictures and complete repairs as needed.	0.09	Quarterly	
Inspect door gasket for signs of damage, tears, or flattening. Note any conditions found, provide pictures of issue found and complete repairs as needed.	0.04	Quarterly	

Verify that door sweeps on cooler or freezer doors drag on the floor. Note any conditions found, provide pictures of damage and complete repairs as needed.	0.04	Quarterly	
Verify operation of door closure mechanisms. The door should close automatically. Note any conditions found and repair as needed.	0.04	Quarterly	
Inspect door latch and striker to ensure operation and that when closed, door is held tight to door frame. Note any conditions found and repair as needed.	0.04	Quarterly	
Verify operation of cooler/freezer lights. Note any conditions found and repair as needed.	0.04	Quarterly	
Inspect penetrations through walls/ceilings to ensure that they are sealed. Note any conditions found, provide pictures of damage found and repair as needed.	0.04	Quarterly	
Inspect each glass door for signs of condensation on exterior of door or between glass panes. If there is any condensation, Inspect the operation of HVAC and dehumidifier for operational issue. Verify the glass door heater is operation. Note any conditions found and complete repairs as needed.	0.09	Quarterly	
Inspect all doors to ensure that door gaskets seal tightly to the door frame when closed. Note any conditions found and schedule repairs as needed.	0.09	Quarterly	
Complete on Controller. Verify sensors are calibrated, functional and not damaged. (Grocery DC sites only: Local RME will perform task)	0.09	Quarterly	
AIR CURTAIN TASKS		Frequency Quarterly Pricing (flat rate)	
Adjust air curtain per manufacturer's recommendation. Note any conditions found and adjust as needed.	0.50	Quarterly	
Verify heater operation. Verify the air door is programmed as per manufacturer's recommendation. Note any conditions found and complete repairs as needed.	0.50	Quarterly	
WALK-IN FREEZER AUTOMATIC BI PARTING DOOR TASKS:	Time	Frequency	Quarterly Pricing (flat rate)
Adjust door so that it closes automatically within 8 seconds of opening. Note any conditions found and repair as needed.	0.17	Quarterly	
Inspect door opening switches operating and in good condition. Note any conditions found and complete repairs as needed.	0.17	Quarterly	
Verify motion sensor has correct field of vision and is functioning properly. Note any conditions found and adjust as needed.	0.10	Quarterly	
COOLER/FREEZER ROOF INSPECTION TASKS:	Time	Frequency	Quarterly Pricing (flat rate)
Inspect top deck of each cooler/freezer for condensation, mold, mildew. Note any conditions found and clean as needed.	0.15	Quarterly	
Inspect underside of building roof deck above all refrigerated or frozen spaces for water infiltration, mold, and mildew. Note any conditions found and clean as needed.	0.09	Quarterly	
DOORS INSPECTION TASKS:	Time	Frequency	Quarterly Pricing (flat rate)
Inspect door gaskets for tears, damage, or flattening. Note any conditions found and make repairs as needed.	0.09	Quarterly	

Inspect door handles to ensure they are secured to door frame. Note any conditions found and secure handles as needed.	0.09	Quarterly	
Verify the doors close automatically. Note any conditions found and djust the hinge for proper operation.	0.04	Quarterly	
Verify operation of door and door frame heaters. Quote replacements as needed.	0.09	Quarterly	
EVAPORATOR UNIT TASKS:	Time	Frequency	Quarterly Pricing (flat rate)
Inspect each evaporator for signs of ice build up. Note any conditions found and deice as needed. Verify the defrost heater is functioning properly.	0.12	Quarterly	
Inspect each evaporator fan to ensure operation. Note any conditions found and repair as needed.	0.05	Quarterly	
Inspect for broken, damaged, or loose fan guards. Note any conditions found and repair as needed.	0.05	Quarterly	
Inspect fan motor and fan assembly for vibration. Note any conditions found and repair as needed.	0.05	Quarterly	
Listen to each fan motor for bearing noise. Note any conditions found and repair as needed.	0.05	Quarterly	
Verify fan rotation. Verify the fan rotation direction is correct. Note any conditions found and repair as needed.	0.05	Quarterly	
Inspect each coil sheet for damage. Use a comb or brush to straighten the fins. Note any conditions found and repair as needed.	0.14	Quarterly	
Inspect evaporator coil for contamination. Clean evaporator coils as needed.	0.30	Quarterly	
Inspect guards and blades for damage. Note any conditions found, clean guards and fan blades.	0.19	Quarterly	
Inspect heaters to ensure that there is clearance between the electrical connections and the copper components of the evaporator coil. Note any conditions found and repair as needed.	0.14	Quarterly	
Ensure that heaters are operable and are held in place by the manufacturer provided brackets. Note any conditions found and repair as needed.	0.19	Quarterly	
Inspect defrost contactors for proper function. Note any conditions found and repair as needed.	0.14	Quarterly	
Inspect harness connection at motor, terminal block, and any plug connection. Apply dielectric grease to plug connection to retard the infiltration of moisture. Note any conditions found and repair as needed.	0.14	Quarterly	
Verify tightness of all electrical connections. Make sure there are no loose connections. Note any conditions found and repair as needed.	0.14	Quarterly	
Verify operation of heat tape. Note any conditions found and replace tape if defective.	0.14	Quarterly	
Inspect condensate drain line to ensure there is no damage and that it is open from the evaporator drain connection to building drain. Note any conditions found and repair as needed.	0.06	Quarterly	
Clean evaporator coils of contamination. Drain pans should clean and drail lines confirmed free flowing after cleaning.	4.00	Annually	
PIPING SYSTEM TASKS:	Time	Frequency	Quarterly Pricing (flat rate)
Visually inspect refrigeration piping system and look specifically for vibration, shaking, movement. Note any conditions found and repair as needed.	0.75	Quarterly	

Visually inspect piping system for signs of torn insulation. Note any conditions found and replace with new insulation.	0.45	Quarterly	
Inspect piping system for signs of moisture and/or ice build up. Note any conditions found and make repairs as needed.	0.45	Quarterly	
Inspect piping system to ensure that hangers are not damaged and are supporting pipe. Note any conditions found and repair as needed.	1.00	Quarterly	
REMS SYSTEM TASKS:	Time	Frequency	Quarterly Pricing (flat rate)
Contractor to verify calibration of each pressure transducer. Note any transducer that is out of calibration and quote replacements. (DOES NOT APPLY TO Co2 SITES)	0.55	Quarterly	
Complete on Controller. Contractor to verify calibration of each temperature sensor. Note any temperature sensor that is out of calibration and quote replacements. (DOES NOT APPLY TO Co2 SITES)	0.50	Quarterly	
Note if compressor cycles more that 150 times in 24 hours. Note any conditions found, identify the root cause and make repairs as needed. (DOES NOT APPLY TO Co2 SITES)	0.40	Quarterly	
Visually inspect the home page on the E2 and ensure that all systems are visible. Note any conditions found and make repairs as needed. (DOES NOT APPLY TO Co2 SITES)	0.15	Quarterly	
Verify the site layout drawing is mounted on the wall adjacent to or near the E2 panel. Note issue and replace as needed. (DOES NOT APPLY TO Co2 SITES)	0.08	Quarterly	
Verify the site layout drawing accurately reflects building, quantity of refrigeration systems, and layout. Note issue and replace as needed. (DOES NOT APPLY TO Co2 SITES)	0.15	Quarterly	
Verify all sensors are reading within an acceptable range for the application. Note any conditions found and make repairs as needed. (DOES NOT APPLY TO Co2 SITES)	0.40	Quarterly	
LEAK DETECTION SYSTEM TASKS:	Time	Frequency	Quarterly Pricing (flat rate)
Contractor to verify calibration and operation of leak detector. Note any conditions found, identify the root cause and make repairs as needed. (Grocery DC sites only: PM task does not apply to sites)	0.50	Quarterly	
Empty water trap (Grocery DC sites only: PM task does not apply to sites)	0.30	Quarterly	
Inspect charcoal filter on IRLDS. Note any conditions found, identify the root cause and make repairs as needed. (Grocery DC sites only: PM task does not apply to sites)	0.30	Quarterly	
Inspect Line-End Filter for each leak detection zone. Note any conditions found, identify the root cause and make repairs as needed. (Grocery DC sites only: PM task does not apply to sites)	0.30	Quarterly	
Verify all sensors are functional and not damaged (Quote replacements as needed) (Grocery DC sites only: PM task does not apply to sites)	0.25	Quarterly	
Inspect end-of line water stop for each leak detection zone. Note any conditions found, identify the root cause and make repairs as needed. (Grocery DC sites only: PM task does not apply to sites)	0.40	Quarterly	
ROOF/BUILDING PENETRATION TASKS:	Time	Frequency	Quarterly Pricing (flat rate)

Inspect roof and building pentration points. Note any conditions found, identify the root cause and make repairs as needed. (Grocery DC sites only: PM task does not apply to sites)	0.25	Quarterly	
Glycol Systems (floor heat/oil coolers):	Time	Frequency	Quarterly Pricing (flat rate)
Using a refractometer - verify glycol mixture and verify it is to design spec and manufacturer's recommendation. Note any conditions found, identify the root cause and make repairs as needed. Annual inpsection	0.25	Annually	
Controls:	Time	Frequency	Quarterly Pricing (flat rate)
Based on site design, Visually inspect Dixell controllers. Note any conditions found, identify the root cause and make repairs as needed.	0.50	Quarterly	
Use E2 to verify all evaporator coil temp sensors and transducers are within an acceptable target range. Note any conditions found, identify the root cause and make repairs as needed.	0.40	Quarterly	
Refriegration System Inspect CO2 Refrigeration System Inspect (If Applicable) GENERAL C02 SYSTEM	Time	Frequency	Quarterly Pricing (flat rate)
Inspect C02 refrigerant charge in Flash Tank (Danfoss reading vs. level column).	0.05	Quarterly	
Inspect E2 Refrig Sensor readings for refrigerant leaks.	0.08	Quarterly	
Inspect all E2 controls for correct operation of CO2 rack and circuits associated to system. Note any conditions found, identify the root cause and make repairs as needed.	0.05	Quarterly	
Based on refrigeration design, lubricate all motors and bearings as needed. Note any conditions found, identify the root cause and make repairs as needed.	0.05	Quarterly	
Inspect all operating refrigerant pressures. Note any conditions found, identify the root cause and make repairs as needed.	0.05	Quarterly	
Inspect all operating Probes and Sensors for proper refrigerant temperatures. Note any conditions found, identify the root cause and make repairs as needed.	0.05	Quarterly	
Inspect all compressors. Note any conditions found, identify the root cause and make repairs as needed.	0.08	Quarterly	
Inspect glycol flow indicators at headers and Inspect underfloor temp sensors. Note any conditions found, identify the root cause and make repairs as needed.	0.08	Quarterly	
Inspect strobes and alarms for leak detection and alarms. Note any conditions found, identify the root cause and make repairs as needed.	0.08	Quarterly	
C02 RACK & COMPRESSORS	Time	Frequency	
COMPLETE ON CONTROLLER. Inspect compressor and subcooling operation. Inspect superheat at compressors and all EEV valves on Rack. Note any conditions found, identify the root cause and make repairs as needed.	0.08	Quarterly	
COMPLETE ON CONTROLLER. Inspect oil pressure differental across oil seperator inlet and outlet (8lb minimum differental), if above 8lbs replace oil seperator filter.	0.10	Quarterly	
COMPLETE ON CONTROLLER. Inspect Pressure relief valves and pressure controls at C02 Rack. Note any conditions found, identify the root cause and make repairs as needed. SImulate on Controller	0.43	Quarterly	

Inspect all Voltage and Amp draws on all electrical components at Gas Cooler and Rack. Inspect with IR gun.	0.25	Quarterly	
Inspect operation of VFD and compressor cycling on first and second stage. Note any conditions found, identify the root cause and make repairs as needed.	0.33	Quarterly	
SYSTEM HIGH PRESSURE SIDE	Time	Frequency	
Inspect proper operation of all sub cooling, electronic expansion and EEPR valves on C02 rack. Note any conditions found, identify the root cause and make repairs as needed.	0.50	Quarterly	
COMPLETE ON CONTROLLER. Inspect Pressure differental on liquid driers inlet and outlet pressures. If the pressure differental is above 6lbs, note the condition.	0.08	Quarterly	
General System Task	Time	Frequency	
Replace liquid driers every second quarter. Note any conditions found.	2.50	Quarterly	
Conduct IR scan of all refrigeration panels. Notify RME Manager of any failed conditions.	0.67	Quarterly	
Replace E2 battery every second quarter. Check UPS chargers. Note any conditions found, identify the root cause and make repairs as needed.	0.05	Quarterly	
Replace oils seperator filters bi-annually. INDICATE DATE FILTERS WERE CHANGED. Note any conditions found, identify the root cause and make repairs as needed.	5hrs	Bi-Annually	
PM Total			