MAINTENANCE TECHNICAL SUPPORT CENTER
HEADQUARTERS MAINTENANCE OPERATIONS
UNITED STATES POSTAL SERVICE

Maintenance Management Order

SUBJECT: Guidelines for Creating Detailed Local Building and Building Equipment Maintenance Preventive Maintenance Checklists

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TO: All Maintenance Sites

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This Maintenance Management Order (MMO) **supersedes MMO-100-18** and provides local maintenance managers with guidelines to develop detailed Building and Building Equipment Maintenance Preventive Maintenance (PM) checklists. Attachment 1 provides a table listing equipment and corresponding PM guidelines. Attachment 2 provides the PM guides. Attachment 3 provides sample USPS Building Equipment Annual Staffing Workhour Requirement Forms.

The PM requirements and tasks in Attachment 2 provide the minimum required PM checks and frequencies that should be modified as necessary based on manufacturer's recommendations, local conditions, usage, or local ordinances. Ensure all required safety precautions including but not limited to Personal Protective Equipment (PPE), Electrical Work Program (EWP), local Energy Control Procedures (ECP), and Safety Data Sheet (SDS) are added to the locally developed PM checklists.

The development of a facility's Building and Building Equipment Maintenance (BEM) Plan depends on a complete and accurate inventory. All building equipment that is to be maintained must be identified and listed in the site staffing software application. Failure to accurately inventory the facility equipment may result in inadequate support resources. The site staffing projection for building equipment maintenance is derived and calculated within the staffing software application and is based on the building equipment inventory, maintenance standards, and frequencies. Each inventory item in the staffing software application earns an annual work hour allowance, which should not be exceeded without proper documentation and justification. Station/Branch and Associate Office building equipment entered into the staffing software application does not count toward building equipment maintenance staffing hours because those facilities are maintained by Field Maintenance and associated staffing hours are calculated in a separate section of the staffing software application. Other equipment or building systems supported by contract or other means, must be listed, but designated as "maintained by contract".

Route scheduling within eMARS should be coordinated to allow inspection of numerous smaller simplistic components at the same time to minimize travel within the facility. For example: Perform the inspections of Steam Traps, Chilled Water Valves, other miscellaneous HVAC valves and Air Handler Units at the same time when feasible.

For questions or comments concerning this bulletin contact the MTSC HelpDesk, either online at **MTSC**>**HELPDESK**>**Create/Update Tickets** or call (800) 366-4123.

Frederick L. Jackson III
Executive Manager
Maintenance Technical Support Center
Asset Maintenance Planning, Performance and Support

Attachments:
1. Equipment Inventory Reference Table
2. Building and Building Equipment Preventive Maintenance Guides
3. USPS Building Equipment Annual Staffing Workhour Requirement Forms

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ATTACHMENT 1

EQUIPMENT INVENTORY REFERENCE TABLE

ATTACHMENT 1

1.0. EQUIPMENT INVENTORY TABLE

Table 1-1. Equipment Inventory Reference Table

	ITEM	eMARS ACRO.	PM GUIDE NO(S)
1	Air Compressors	AIR (1)	MISC-1
2	Air-Conditioning Machine Package Unit	HVACPKG	HVAC-1, HVAC-15
3	Air-Conditioning, Window Units	HVACPKG	HVAC-2, HVAC-15
4	Air Handlers	AHU	HVAC-4, HVAC-13, HVAC-14
5	Boilers, Cast Iron and Steel	BOILER	HVAC-6, HVAC-5, HVAC-7, HVAC-8
6	Burner, Gas	BURNER	HVAC-7
7	Burner, Oil	BURNER	HVAC-8
8	Coils, Preheat, Reheat, etc. (at remote locations)	REHEAT	HVAC-9
9	Condensers, Air Cooled	COOL	HVAC-3, ELEC-1
10	Condensers, Evaporative	COOL	PLUM-7, ELEC-1
11	Controls and Mechanisms for Roll-type Filters	FILTER	HVAC-14
12	Cooling Towers	COOL	HVAC-11.1, HVAC-11.2, HVAC-12, ELEC-1
13	Dock Boards (also see Loading Ramp)	DOCKS	MISC-8, MISC-16
14	Doors, Main Entrance (non-powered)	DOOR	MISC-7
15	Doors, Main Entrance and Dock, Power Operated	DOOR, DOCKS	MISC-6
16	Drinking Water Coolers	PLUMB	PLUM-13
17	Electrical Panel Infrared Scans	ELEC	ELEC-5
18	Emergency Shower	PLUMB	PLUM-15
19	Eyewash	PLUMB	PLUM-14
20	Fans, Centrifugal (Exhaust or Return Air)	FAN	HVAC-12
21	Fans, Propeller, Pedestal or Wall-Mounted	FAN	HVAC-16
22	Floor Scrubber, Automatic	BLDG	MISC-18
23	Filters, Roll Type, Disposable Media	FILTER	HVAC-13, HVAC-14
24	Filters, Throw Away	FILTER	HVAC-15
25	Fire Dampers (In Duct)	EMSYS	HVAC-24
26	Fire Doors - Sliding Type	DOOR	MISC-10
27	Fire Doors - Swinging Type, Stairwells and Exit ways	DOOR	MISC-9
28	Fire Extinguisher	EMSYS	PLUM-1
29	Fire Pumps, Electric Motor Drive	PLUMB	PLUM-11
30	Fire Pumps, Internal Combustion Engine Drive	PLUMB	PLUM-12
31	Generators, Emergency, Gasoline or Natural Gas Engines	EMSYS	ELEC-2, ELEC-3, ELEC-4
32	Heaters, Baseboard, Electric	HVACO	HVAC-21
33	Heaters, In Duct, Electric	HVACO	HVAC-20
34	Heaters, Unit, Gas-fired	HVACPKG	HVAC-23
35	Heaters, Unit, Steam or Hot Water	HVACO	HVAC-22

	ITEM	eMARS ACRO.	PM GUIDE NO(S)
36	Heating/Cooling Units, Package Unit	HVACPKG	HVAC-17
37	Hot Water Heaters, Converters (Industrial)	PLUMB	PLUM-9, ELEC-1, PLUM-7
38	Hot Water Heaters, Domestic Type (Gas or Oil Fired)	PLUMB	PLUM-10, ELEC-1, PLUM-7
39	Lawnmowers and Edgers (Gasoline powered)	BLDG	MISC-2
40	Lead Acid PIV Battery	MISC	MISC-19
41	Lifts, Power	DOCKS	MISC-14
42	Loading Ramps, Adjustable	DOCKS	MISC-8
43	Motors, Over 5 HP	MOTOR	ELEC-1
44	Paper Baler	BALER	MISC-4
45	Pumps, Centrifugal (Not Integral with Motor)	PUMP	PLUM-7, ELEC-1
46	Pumps, Condensate or Vacuum	PUMP	HVAC-10
47	Pumps, Sump (Sewage or Life)	PLUM	PLUM-2
48	Refrigeration Machines (Absorption type)	COOL	HVAC-18, ELEC-1, PLUM-18
49	Refrigeration Machine (Centrifugal and Reciprocating)	COOL	HVAC-19, ELEC-1, PLUM-7
50	Roof, Inspection: Roof work should only include periodic visual inspection. Any required roof repairs need to be considered under and coordinated through the National Roof Contract. Note: (all roof types included)	BLDG	PLUM-8
51	Hot Water Heaters – Domestic	PLUMB	PLUM-10
52	Snow Blower - Walking Type	BLDG	MISC-15
53	Stationary Packers	BLDG	MISC-11, MISC-12, MISC-13
54	Sweepers Electric (Battery)	BLDG	MISC-17
55	Sweepers (Gasoline Powered)	BLDG	MISC-3
56	Trailer Restraints	MISC	MISC-20, MISC-21
57	Traps, Steam (All Types)	BOILER	PLUM-6
58	Valves, Manually Operated (Mainline or Critical - over 2 in)	PLUMB	PLUM-4
59	Valves, Motor Operated	PLUMB	PLUM-5
60	Valves, Regulating (Steam)	PLUMB	PLUM-3

1. Include Unfired Pressure Vessel (UPV), if applicable.
2. Use acronym for equipment or system on which this item is installed.

When creating an Equipment Record in the eMARS Equipment Module, the Site will generate one record for each piece or type of equipment depending on the specific equipment.

ATTACHMENT 2

BUILDING AND BUILDING EQUIPMENT

PREVENTIVE MAINTENANCE GUIDES

ATTACHMENT 2

1.0. GUIDE SET HVAC

1.1. GUIDE NUMBER HVAC-1: AIR-CONDITIONING MACHINE PACKAGE UNITS

Frequency: Annual

Special Instructions: Observe current local ECP.

1. Remove panels. Clean entire unit.
2. Clean drip pans and drains. Check for corrosion.
3. Replace worn belts and adjust proper tension.
4. Lubricate motor(s) and fan(s) bearings.
5. Check motor alignment and verify hardware is tight.
6. Change filters with USPS approved products.
7. Operate unit and check for proper cooling.
8. Check thermostat.
9. Check fan and motor. Clean fan blades, motor, and lubricate bearings.
10. Run machine and check operation, water supply and control valves, suction and discharge pressures, need for refrigerant, recheck for leaks, functioning of controls, temperature of discharge, air, etc.
11. Restore panels and clean up area and machine.
12. Identify and report any deficiencies.

1.2. GUIDE NUMBER HVAC-2: AIR-CONDITIONING, WINDOW UNITS

Frequency: Annual

Special Instructions: Observe current local ECP. Review manufacturer instructions.

1. Remove necessary covers.
2. Clean condenser, cooling coil fins, and fans where accessible.
3. Remove dirt or dust from accessible interior parts.
4. Replace or clean filter.
5. Replace covers that were removed, if necessary.
6. Clean area.
7. Start unit and observe operation.

1.3. GUIDE NUMBER HVAC-3: AIR-COOLED CONDENSERS

Frequency: Annual

Special Instructions: Observe current local ECP.

1. Vacuum dirt on coils and fins.
2. Inspect and service unit following manufacturer recommendations.
3. Identify and report any deficiencies.

1.4. GUIDE NUMBER HVAC-4: AIR HANDLERS

Frequency: Annual

Special Instructions: Observe current local ECP.

1.4.1 Fans

1. Clean and inspect fan blades.
2. Clean and inspect fan housing.

1.4.2 Bearings

Lubricate bearings following manufacturer recommendations. Do not over lubricate bearings.

1.4.3 Drives (Belt and Direct)

1. Inspect for excessive belt wear indicating misalignment, overloading, or improper belt tension.
2. If belts are worn, they should be replaced to prevent untimely breakdown. Multi-belt drives should be replaced in matched sets. Adjust belt tension as necessary.
3. Check couplings for alignment on direct drives and for tightness of assembly.

1.4.4 Coils

1. Examine coils for leakage and debris.
2. Clean coil exterior using manufacturer’s recommendations.

1.4.5 Freeze Protection

1. Check pitch of coil to drainage point.
2. Inspect test controls and devices used for freeze protection.
3. Clean face and lubricate following manufacturer recommendation.

1.4.6 Controls

1. Inspect and clean dampers, control linkage, and control motors following manufacturer recommendation.
2. Lubricate as necessary following manufacturer recommendation.

1.5. GUIDE NUMBER HVAC-5: BOILERS, OIL FIRED

(Cleaning fireside only)

Frequency: Annual

Application: This is to provide for fireside cleaning to remove soot and maintain high efficiency.

Special instructions: Allow boiler to cool, lock out power to oil pumps and blowers, and close and lock out valves. Observe current local ECP. Ensure all safety requirements are followed.

1. Clean soot from chamber, tubes, and all heat transfer surfaces.
2. Look for signs of overheating, leakage, wear, abrasion, corrosion of pressure parts, or erosion of metal.
3. Clean or replace burner nozzle as necessary.
4. When unit is returned to service, check and adjust burner for optimum combustion efficiency.
5. Identify and report any deficiencies.

1.6. GUIDE NUMBER HVAC-6: BOILERS, CAST-IRON AND STEEL

Frequency: Annual

1.6.1 General

1. Remove boiler from service. Take proper safety precautions before working inside boiler, including tagging of valves and controls, and letting boiler cool down.
2. Remove fly ash and soot from flue passages.
3. Check firesides, valves, and trim, and report any leaks.

1.6.2 Water Sides

1. Clean gauge glass and siphon loops to limit controls.
2. See that petcocks and try cocks open freely.

1.6.2.1 If internal inspection is required:

1. Remove hand-hole and manhole plates.
2. Clean interior of boiler, wash down shell and drums to remove mud, loose scale, and deposits.
3. Turbine tubes: check tube ends for leakage and corrosion.
4. Identify and report any deficiencies.

1.6.3 Exterior and Fire Sides

1. Examine and clean water column and feed water regulators, high and low side alarms, drains, gauge glasses, siphon loops, petcocks, and try cocks.
2. Look for signs of overheating, leakage, wear, abrasion; corrosion of pressure parts, or erosion of metal.
3. Check tubes for evidence of blisters and pock marks.
4. Check condition of all refractories for cracks, erosion, and caulk. Also check expansion joints, baffles, dampers and actuating mechanisms, stay-bolts, etc.
5. Test all non-return and stop valves. Clean and replace as necessary.
6. Check fusible plugs, if used. Replace yearly.
7. Check and clean bonnets, flues, and uptakes for defective metal. Replace if necessary.
8. Check exterior structure for strains and tension.
9. Clean and lubricate forced-draft fan.
10. Check condition of door gaskets.
11. Carefully account for all tools before closing up boiler.
12. Identify and report any deficiencies.

1.7. GUIDE NUMBER HVAC-7: BURNER, GAS

Frequency: Annual

1. Check boiler room for adequate ventilation in accordance with AGA burner requirements.
2. Check operation of all gas controls and valves.
3. Check flue connections for tight joints and minimum resistance to airflow. Ensure combustion chamber, flues, breeching, and chimney are clear before firing.
4. Ensure draft regulators give slightly negative pressure in the combustion chamber at maximum input.
5. On forced-draft burners, gas manifold pressure requirements should correspond with modulating (butterfly) valve in full-open position and stable at all other firing rates.
6. Take CO2 flue gas temperature readings for determination of efficiency of the unit. CO2 for atmospheric gas burners should be 8 to 9.5%; for forced draft burners 9 to 10%. Determine combustion efficiency according to instructions with flue gas test apparatus. Combustion efficiency should be at least 80%. If efficiency is low, check baffling.
7. Check burner for flashback and tight shutoff of fuel.
8. Check operation of controls. Clean and adjust if necessary.
9. Ensure unit operates properly when adjustments are set per manufacturer instructions.
10. Identify and report any deficiencies.

1.8. GUIDE NUMBER HVAC-8: BURNER, OIL

Frequency: Annual

1. Test and inspect burner (with or without firing) at rated pressure for leaks.
2. Timed trial for ignition for pilots and burners should be in accordance with manufacturer instructions.
3. Check operation of automatic safety controls and combustion flame safeguards for abnormal discharge of oil on ignition failure, and sensors for presence of flame.
4. Check pre-ignition purging capability of burner, combustion chamber, boiler passes, and breeching. Stack dampers should be fully open during purge and light-off period.
5. Check delivery of fuel in relation to its response to the ignition system. Examine electrodes for carbon buildup, dislocation, distortion, and burning of parts.
6. Ensure ignition transformer provides dependable arc. Adjust and regulate as required for clearance and air gap.
7. Clean and adjust draft regulator and air shutter on a natural draft burner to ensure excess air quantities are minimal for complete combustion. Test with gas analyzer.
8. On mechanical draft burners clean and check power-driven fan blower.
9. Check forced-draft fan, clean fan and fan housing, check bearing, pulleys, and belts for wear and lubricate as necessary.
10. Check and clean filters, water separators, and primary and secondary strainers.
11. Clean, check operation, and adjust controls and safeties.
12. Burners designed to change firing rates automatically should be checked for adequate proportioning changes in fuel and air rates.
13. Check constant level device to see that burner maintains proper oil level (within 1/3") at rated output.
14. Ensure energy cannot feedback and energize ignition devices or feed valves after a control shuts off burner.
15. Replace nozzles and check for tight shutoff of fuel.
16. Check stacks for smoke or haze and adjust burner accordingly.
17. Take CO2, O2, and smoke readings. Compare CO2 and flue gas temperature for determination of boiler burner efficiency. CO2 should be 9 to 12%. Combustion efficiency should be at least 80%. Determine combustion efficiency according to instructions with flue gas test apparatus.
18. Identify and report any deficiencies.

1.9. GUIDE NUMBER HVAC-9: COILS, PREHEAT, REHEAT, ETC. (REMOTE FROM AIR HANDLER)

Frequency: Annual

Application: This guide applies to coils that are not part of an air-washer or air-handling unit.

1. Vacuum the fins, coils, etc.
2. Remove obstructions to airflow.
3. Check coils. Repair or report any leaks.
4. Test and inspect controls that protect against freezing.
5. Identify and report any deficiencies.

1.10. GUIDE NUMBER HVAC-10: CONDENSATE OR VACUUM PUMPS (ON STEAM RETURN SYSTEM)

Frequency: Annual

1. Operate unit to check for steam binding.
2. Check condensate temperature. Temperature should be approximately
3. 30 degrees F. below steam temperature if traps are not leaking.
4. Examine flanges for steam leaks.
5. Pump receiver down.
6. Turn condensate to sewer.
7. Shut down unit.
8. Clean receiver.
9. Clean and adjust motor float switch and float operation on high-low water level. Inspect pressure switches.
10. Clean and examine receiver, vent pipe, inlet, and discharge openings for excessive corrosion. Report condition.
11. Check alignment of coupling with straight edge.
12. Lubricate pump and motor.
13. Adjust packing glands and change packing when necessary.
14. Examine vacuum breaker operation.
15. Inspect ball floats, rods, and other linkage. Adjust as necessary.
16. Identify and report any deficiencies.

1.11. GUIDE NUMBER HVAC-11.1: COOLING TOWERS STARTUP (SPRING)

Frequency: Annual

Special Instructions: Observe current local ECP. Perform annual maintenance before cooling season.

1. Remove trash, dirt, and algae from pans, casings, fill, and screens.
2. Check structural members of tower for deterioration.
3. Clean and check operation of the water treatment equipment.
4. Fill tower. Adjust bleed float level. Charge with water treatment chemicals.
5. Examine water nozzles for obstructions and proper water distribution.
6. Check alignment of motor to gear to fan.
7. Inspect motor, motor starter, belts, etc., for proper operation.
8. Identify and report any deficiencies.

1.12. GUIDE NUMBER HVAC-11.2: COOLING TOWERS SHUTDOWN (FALL)

Frequency: Annual

Special Instructions: Observe current local ECP. Perform annual maintenance after cooling season.

1. Drain and flush down tower. Remove trash, dirt, and algae from pans, casings, fill, and screens.
2. Drain and replace lubricant in gearbox.
3. Identify and report any deficiencies.

1.13. GUIDE NUMBER HVAC-12: FANS, CENTRIFUGAL

Frequency: Annual

Special Instructions: Observe current local ECP.

1. Check over unit thoroughly. Look for signs of rust, corrosion, or deterioration. Inspect interior of housing, if there are openings to do so.
2. Check insulation; repair if needed.
3. Check bearings, shaft, pulley, and alignment with motor. If vibration is excessive, check balance of rotor.
4. Perform required lubrication.
5. Check belts; adjust tension, or replace as required.
6. Vacuum windings, if necessary.
7. Clean complete unit, including fan rotor.
8. Identify and report any deficiencies.

1.14. GUIDE NUMBER HVAC-13: FILTERS, ROLL-TYPE DISPOSABLE MEDIA

Frequency: 4 times annually (quarterly)

Application: To inspect roll filter media.

Special Instructions: Observe current local ECP.

1. Check filter media roll.
2. Replace filter media roll as needed utilizing the work order process.

1.15. GUIDE NUMBER HVAC-14: CONTROLS AND MECHANISMS ROLL TYPE FILTERS

Frequency: Annual

Special Instructions: Review manufacturer instructions. Observe current local ECP.

1. Inspect framework and structure. Look for loose or missing bolts, air leaks, condition of flashing or caulking, etc.
2. Inspect all moving parts for proper alignment, freedom of motion, excessive clearance or play, etc. Clean, adjust, or tighten as necessary.
3. Inspect powered roll and take up roll for correct tracking of media. On manual operation check wheel or hand crank.
4. On motor drives, check pressure sensing device(s) and/or pressure switches. Test settings for starting and stopping motor.
5. Inspect motor, starter, controls, and selector switch for auto warning or indicator lights.
6. Check oil in gear case. Change or replenish as required. Perform required lubrication.
7. Identify and report any deficiencies.

1.16. GUIDE NUMBER HVAC-15: FILTERS, THROW-AWAY

(Includes package units)

Frequency: 4 times annually (quarterly)

Special Instructions: Observe current local ECP. Change filters when the static pressure approaches the design maximum for the unit.

1. Remove and discard old filters.
2. Clean frame with vacuum.
3. Inspect frame, doors, etc.
4. Install new media.

1.17. GUIDE NUMBER HVAC-16: FANS PROPELLER,

Frequency: Annual

Special Instructions: This guide is for the large fans used in the workroom or other areas to provide air circulation. Observe current local ECP, and ensure all safety requirements are followed.

1. Disconnect from electric power and clean entire unit including the blade and motor.
2. Examine line cord for frayed insulation or evidence of deterioration if applicable.
3. Wrench test blade set-screw, motor mount bolts, and blade guard mounting bolts to verify tightness.
4. Lubricate unit and clean up excess lubricant.
5. Operate unit and check for excess vibration and unusual noise.

1.18. GUIDE NUMBER HVAC-17: HEAT/COOLING UNIT, ROOF TOP

Frequency: Semiannual

Special Instructions: Observe current local ECP. This applies to roof top heating/cooling units, which are gas-fired heating, and having air-cooled condenser. Ensure all safety requirements are followed.

1. Remove panels. Clean entire unit.
2. Clean drip pans and drains.
3. Replace worn belts and adjust for proper tension.
4. Clean fans.
5. Lubricate motor(s) and fan(s) bearings.
6. Check alignment of motor and tighten.
7. Change filters.
8. Identify and report any deficiencies.

1.18.1 SPRING

1. Clean evaporator and condenser coils.
2. Operate unit and check refrigeration. Charge unit as required.
3. Check thermostat.

1.18.2 FALL

1. Clean and check heat exchanger for leaks.
2. Check gas train and safety controls for adequate and proper operation.
3. Adjust pilot or electronic ignition device.
4. Set burner for maximum combustion efficiency.

1.19. GUIDE NUMBER HVAC-18: REFRIGERATION MACHINES, ABSORPTION TYPE

Frequency: Annual

Special Instructions: Consult operating data to determine the temperature difference across the various system components as a guide to determining the condition of the evaporator and condenser tubes.

1.19.1 Evaporator Circuit

1. Check and service evaporator pump, motor controls, starters, etc. Lubricate as prescribed.
2. Clean and flush out seal, water tank seal chamber, and associated lines.
3. Check purge valve diaphragm. Replace if necessary.
4. Inspect ball in check valve.
5. Inspect and clean evaporator spray header, nozzles, etc. Replace defective units.
6. If operating data indicated the refrigerant temperature is slowly rising, test sample for the presence of solution. If excessive, follow manufacturer instructions for distilling refrigerant.

1.19.2 Solution Circuit

1. Check and service solution pump, motor controls, starters, etc. Lubricate as prescribed.
2. Check absorber and generator sight glasses. Replace if required.
3. Check purge valve diaphragm. Replace if required.
4. Inspect and clean solution spray nozzles. Replace defective units.

1.19.3 Condenser Circuit

1. Clean condenser water tubing in the condenser and absorber. Use nylon brush or other soft material.
2. Allow condenser water tubing to dry to determine if scale exists. Have scale chemically tested if necessary. Acid clean if necessary and flush.

1.19.4 Purge System

1. If purge system indicates the system is not tight, follow manufacturer recommendations for removing solution and for leak testing.
2. Clean purge tank, and purge with water following steps prescribed by the manufacturer.
3. Change oil, in purge pump, when it becomes contaminated or emulsified.
4. Inspect discharge valve and oil distributor rubbers; renew if necessary.

1.19.5 Controls

1. Check adjustment of pressure-control, restrictor, high-level cutout, and low temperature cutout.
2. Check all control interlocks for proper operation.
3. Check capacity control valve, linkage, and stem. Lubricate according to manufacturer instructions.
4. Identify and report any deficiencies.

1.20. GUIDE NUMBER HVAC-19: REFRIGERATION MACHINES (CENTRIFUGAL AND RECIPROCATING)

Frequency: Annual

Special Instructions: Observe current local ECP.

1.20.1 Compressor

1. Take sample of oil and have analyzed for acid and metal content. Record the results of the analysis in the eMARS equipment record. Drain, flush, and change oil in reservoirs including filters, strainers, and traps. Do not change oil in reciprocating machines, unless contaminated.
2. Clean and inspect main and auxiliary oil pumps, including packing, seals, alignment, pulleys, belts, and couplings.
3. Check speed increaser. Drain oil from gear box. Flush and inspect gears for indication of wear, pitting, and misalignment.
4. Remove head from oil coolers, inspect and clean tubes as necessary. Change oil filters.
5. Refill oil sump.
6. Remove access caps to compressor internals, and clean where possible.
7. Clean and adjust pilot positioner for guide vanes.
8. Examine bearing for clearances and wear.
9. Clean and lubricate coupling.
10. Check hot and cold alignment between drive and driven compressor.
11. Check all relief valve rupture discs.
12. Test entire system for refrigerant leaks.
13. Calibrate and adjust all gauges and instruments. Calibrate the chilled water inlet and outlet thermometers together by placing the sensing element in a container of melting ice and water. This provides a 32 degrees Fahrenheit temperature for calibration purposes.
14. Check safety controls for setting operation; tighten electrical connections, and clean when necessary.
15. Review manufacturer literature for further details on service required on compressor.
16. Perform maintenance on purge unit in accordance with manufacturer instructions.

1.20.2 Chiller

1. Review chiller performance records. (Inlet and outlet chilled water temperature and refrigerant temperatures).
2. If efficiency is reduced, inspect for control malfunction or sensing element failure.

3. Systems requiring minimum or no raw water make-up should be drained and inspected only in emergencies. The pH should be maintained between 7 and 8. To determine that the system is tight, disconnect automatic make-up water system and feed by hand. Frequency for cleaning on such systems should be once every five years. Note: New installations must be cleaned after one year of operation.
4. Clean tubes with nylon brush or similar material.
5. Blow tubes free of trapped water if unit is to be exposed to freezing temperatures.
6. Replace heads. Install new gaskets.
7. Treat water to control corrosion.

1.20.3 Water-Cooled Condensers

1. Review condenser performance by inlet and outlet temperatures, head pressure, and temperature of refrigerant.
2. Remove condenser heads.
3. Remove mud, debris, scale, and other sediment collected during operation.
4. Clean water boxes and tube sheets.
5. Clean tubes with nylon brush or other similar material, and inspect for signs of corrosion.
6. Blow trapped water from tubes after cleaning if unit is exposed to freezing temperature.
7. Replace heads. Install new gaskets.
8. Chemically test scale, if necessary.
9. If condenser is chemically cleaned, neutralize after cleaning.

1.21. GUIDE NUMBER HVAC-20: HEATER, ELECTRIC, IN-DUCT

Frequency: Annual

1. Vacuum all dust and dirt from coils.
2. Remove airflow obstruction.
3. Visually inspect for cracked or broken insulators, distorted or burned coils, and loose connections. Replace as needed.
4. Inspect operating contacts and replace if needed.

1.22. GUIDE NUMBER HVAC-21: HEATER, ELECTRIC, BASEBOARD

Frequency: Annual

1. Remove cover; clean coil, fins, and cover grille with vacuum.
2. Replace cover.

1.23. GUIDE NUMBER HVAC-22: UNIT HEATERS (STEAM AND HOT WATER)

Frequency: Annual

1. Clean strainer ahead of valve. Check valve head and seats for wear and cutting.
2. Replace valve(s) as necessary.
3. Steam quality should be examined for foreign matter if valves are being damaged.
4. Examine pilot lines for dirt.
5. Check steam gauges.
6. Check safety or pressure relief valve for relieving and seating.
7. Check diaphragms for failure.
8. Check binding of valve stem.
9. Clean and adjust heater deflector fins and element.
10. Clean fan and lubricate motor.
11. Adjust weighted lever or spring-control tension.
12. Identify and report any deficiencies.

1.24. GUIDE NUMBER HVAC-23: UNIT HEATERS (GAS FIRED)

Frequency: Annual

Special Instructions: Observe current local ECP. Ensure all safety requirements are followed. For infrared units follow manufacturer recommendations.

1. Clean and adjust heater deflector fins and element.
2. Clean fan and lubricate motor.
3. Clean burner, chamber, thermo-couple, and control.
4. Adjust pilot or electric ignition device.
5. Inspect vent and damper operation.
6. Remove lockout from unit.
7. Operate unit and adjust burner.
8. Check operation of safety pilot, gas shutoff valve, and other burner safety devices.
9. Identify and report any deficiencies.

1.25. GUIDE NUMBER HVAC-24: FIRE DAMPERS (IN-DUCT)

Frequency: Annual

Special Instructions: Fusible link must never be replaced with wire. On first inspection, make sure that the damper is not installed backwards. In all cases, the air movement should tend to close damper.

1. Determine that the access door is reasonably airtight and latches properly.
2. If damper is closed, check for ruptured fusible links, broken attachment or hinge damage, corrosion, etc.
3. Remove fusible link and check for proper rating.
4. Determine that damper is self-closing and properly latches. Adjust if necessary.
5. Lubricate friction points, and exercise damper to ensure complete freedom of movement.
6. Each year, install new fusible links of proper rating and tensile strength in areas of vibration.
7. Reinstall fusible link (locations where vibration is not a problem).
8. Close access door and check for wind noise.

2.0. GUIDE SET ELEC

2.1. GUIDE NUMBER ELEC-1: MOTORS

Frequency: Annual

Application: This guide is for squirrel-cage, wound-rotor, and synchronous motors in excess of 5 horse power. The maintenance specified by this guide is not intended to require disassembly of the motor.

Special Instructions: Obtain and review manufacturer instructions. Observe current local ECP.

1. Clean motor with a clean rag or vacuum.
2. Perform lubrication according to manufacturer instructions.
3. Inspect for moisture and protection from water.
4. Check motor mountings, supports, and couplings for tightness or defects.
5. Identify and report any deficiencies.

2.2. GUIDE NUMBER ELEC-2: BACK-UP GENERATOR- GAS OR NATURAL GAS ENGINES

Frequency: Annual

Special Instructions: This task applies to fixed generators only. If local staff does not have appropriate skills for steps below, this maintenance task should be contracted. Have approved type fire extinguishers readily available. Do not allow open flames or smoking in area. Use safety-type fuel cans only. Review manufacturer instructions.

1. Set distributor point dwell. Replace points, capacitor, rotor, and spark plugs after 100 hours of operation.
2. Set timing and distributor advance. Timing should be set at both idle and operating speed of generator.
3. Adjust carburetor and governor for proper operating speed.
4. Check fuel supply. Replace fuel within the manufacturer recommendations.
5. Change engine oil and filter, and perform other lubrication of engine and generator.
6. Inspect cooling system for leaks, air obstructions, V belt tension, and proper antifreeze solution. Make needed adjustments.
7. Inspect generator winding and clean if needed.
8. Clean commutator and collector rings; check brush wear and tension in accordance with manufacturer instructions.
9. Inspect generator heaters.
10. Identify and report any deficiencies.

2.3. GUIDE NUMBER ELEC-3: EMERGENCY GENERATORS - DIESEL POWER

Frequency: Annual

Special Instructions: This task applies to fixed generators only. If local staff does not have appropriate skills for steps below, this maintenance task should be contracted. Have approved type fire extinguishers readily available. Do not allow open flames or smoking in area. Use safety-type fuel cans only.

1. Change fuel filters.
2. Inspect and adjust rack on unit injector or fuel distributor pump according to manufacturer instructions.
3. Check governor. Adjust for correct speed.
4. Determine fuel level, drain water from tank, and inspect for contamination. Prior arrangements should be made for local procurement of fuel in emergencies.
5. Change engine oil and filter, and perform other lubrication on engine and generator.
6. Inspect cooling system for leaks, air obstructions, V belt tension, and proper antifreeze solution. Make needed adjustments.
7. Inspect generator winding, and clean if needed.
8. Clean commutator and collector rings. Check brush wear and tension in accordance with manufacturer instructions.
9. Inspect generator heaters.
10. Identify and report any deficiencies.

2.4. GUIDE NUMBER ELEC-4: EMERGENCY GENERATORS – ALL TYPES OF ENGINES

Frequency: Monthly

Application: This guide provides for the operation test of emergency generators.

Special Instructions: Check fire extinguishers for location and type. Allow no open flames or smoking in the area. Use only safety type fuel cans. Obtain and review manufacturers instructions and specifications.

2.4.1 Checkpoints:

1. Drain condensate from bottom of fuel tank and check fuel for quantity and contamination.
2. Check engine oil level
3. Check coolant level and inspect for leaks. Inspect engine air cleaner; replace if dirty
4. Test and determine specific gravity of starting batteries. Clean terminals. Set proper charge rate after generator has been operated.
5. Examine generator for moisture and/or dirt.
6. Start and operate under full load for 1 hour. It is important that the unit be operated under load. If a portion of the building load cannot be connected, a resistance load should be used.
7. While the unit is operating, thoroughly observe operation for indication of defects or possible malfunctions.
8. After unit has operated for 50 minutes, log the operation to show at least the following information: engine and generator speed in RPM, operating voltage, operating amperes, engine temperature, engine oil pressure, and hour meter readings.
9. After unit has been operated, check lubricant and coolant according to manufacturer’s instruction to assure it will be ready to operate in an emergency.
10. Report any needed repairs or observed defects.

2.5. GUIDE NUMBER ELEC-5: ELECTRICAL PANEL INFRARED SCANS

Frequency: Annual

Application: This guide provides for quick cursory scans of facility electrical panels operating up to 480 Volts.

Special Instructions: To minimize arc-flash risk, do not remove dead front cover.

2.5.1 Checkpoints:

1. Open circuit breaker access door.
2. A qualified employee should utilize a thermographic camera to scan and record exterior image of circuit breakers and breaker box.
3. Record any observed anomalies.
4. Generate work orders as needed.

3.0. GUIDE SET MISC

3.1. GUIDE NUMBER MISC-1: AIR COMPRESSORS

Frequency: Annual

Special Instructions: Review manufacturer instructions.

1. Test the pressure gauge(s) and cutout and cut-in pressure. Use test gauge to test accuracy of gauge on machine. Gauge should be within 10%.
2. Check safety valve.
3. Tank to be inspected and tested by qualified inspector.
4. On two-stage compressor(s), check intermediate pressure.
5. Listen for knocks, and inspect for mechanical failures.
6. Test compression; correct or repair as necessary.
7. On water-cooled compressor(s) check for corrosion.
8. Clean moisture traps in system. Check operation of timed-moisture-release system, if so equipped.
9. Change oil in crankcase.
10. Check controls, belts, pulleys, alignment, etc.
11. Check air-cooled heat exchanger.
12. Check motor, bearings, starting switches, controller, pressure switches, etc.
13. Clean equipment.
14. Comply with lubrication schedule.
15. Identify and report any deficiencies.

3.2. GUIDE NUMBER MISC-2: LAWNMOWERS AND EDGERS

Frequency: Semiannual

Application: Gasoline-powered, hand-operated, rotary mowers, and edgers.

Special Instructions: Maintenance should be scheduled once a season. Routine daily lubrication should be accomplished by operator.

1. Change engine oil. Oil should be changed, and gasoline drained at end of season prior to storing up unit for winter.
2. Service air and fuel filters.
3. Sharpen or replace cutting blade.
4. Clean and gap or replace spark plug.
5. Inspect unit, clean debris from cooling air passages, and make other needed adjustments.

3.3. GUIDE NUMBER MISC-3: SWEEPERS (GASOLINE)

Frequency: 2 – 6 times Annually

Special Instructions: Review manufacturer maintenance recommendations.

Application: Gasoline or gas powered riding type sweepers used in driveways, parking lots, sidewalks, etc. The operator should accomplish daily lubrication.

1. Change oil, and change or clean filter, as appropriate, every fifty operating hours.
2. Service air and fuel filters.
3. Inspect engine, clean cooling air passages.
4. Clean and gap, or change spark plug.
5. Check oil level in gear boxes.
6. Adjust tension and/or replace V-belts.
7. Adjust brakes, brushes, and operating mechanisms as recommended by the manufacturer instructions.
8. Inspect entire unit.
9. Identify and report any deficiencies.

3.4. GUIDE NUMBER MISC-4: PAPER BALERS

Frequency: Annual

Special Instructions: Observe current local ECP.

1. Dust or wipe clean all parts of machine. Examine structural features.
2. Inspect upper and lower limit switch, etc. Clean and adjust as required.
3. Check drive unit, mechanical features, and all moving parts.
4. Comply with lubrication schedule recommended by manufacturer.
5. Adjust operating mechanism.
6. Identify and report any deficiencies.

3.5. GUIDE NUMBER MISC-5: DOORS, POWER OPERATED

Frequency: Semiannual

Application: Warehouse or large overhead doors.

Special Instructions: Review manufacturer instructions.

1. Inspect general arrangement of door and mechanism, mountings, guides, wind locks, anchor bolts, counter-balances, weather stripping, etc. Clean, tighten, and adjust as required.
2. Operate with power from stop to stop and at intermediate positions. Observe performance of various components, such as brake, limit switches, motor, gearbox, etc. Clean and adjust as needed.
3. Check operations of electric eye, treadle, or other operating devices.
4. Check manual operation. Note brake release, motor disengagement, functioning or hand pulls, chains, sprockets, clutch, etc.
5. Examine motor, starter, push button, etc. Vacuum if required.
6. Inspect gearbox. Change or add oil as required.
7. Perform required lubrication.
8. Clean unit and mechanism thoroughly.
9. Identify and report any deficiencies.

3.6. GUIDE NUMBER MISC-6: DOOR, POWER-OPERATED MAIN ENTRANCE AND DOCK

Frequency: Quarterly

1. Check alignment of door and mechanism. Inspect mountings, hinges, mats, trim, weather stripping, etc. Replace, tighten, and adjust as required.
2. Operate with power, observing operating of actuating and safety mats, door speed, and checking functions.
3. Check manual operation.
4. Inspect power unit, add oil, and tighten hydraulic lines as required.
5. Check operation of controls.
6. Inspect door-operating unit, tighten lines, and adjust as required.
7. Clean and lubricate door pivot points.
8. Identify and report any deficiencies.

3.7. GUIDE NUMBER MISC-7: DOORS, MAIN ENTRANCE

Frequency: Semiannual

Application: Entrance doors used in main entries to buildings.

3.7.1 Hinged Doors

1. Inspect the frame and supporting structure.
2. Inspect hardware; hinges, latch keeper, lock, etc. Apply appropriate lubricant where needed; wipe off excess.
3. Inspect glass, seals, or retaining pieces. Correct any deficiencies.
4. Operate door to observe functioning of check. Adjust and service as needed.
5. Identify and report any deficiencies.

3.7.2 Revolving Doors

1. Remove obstructions and clean out track.
2. Fold door. Note action and freedom of motion.
3. Inspect locking device; adjust as needed.
4. Clean pivot points and apply appropriate lubricant.
5. Inspect felt or rubber seals.
6. Identify and report any deficiencies.

3.8. GUIDE NUMBER MISC-8: DOCK LEVELERS, POWERED

Frequency: Quarterly

Special Instructions: Observe current local ECP. Review manufacturer instructions.

Safety: Block dock levelers in up position with an approved device.

1. Inspect structural features, framework, support members, anchor bolts, pit, platform, etc. Examine condition of bumper.
2. Remove dirt and trash from pit, and verify pit drain is open.
3. Inspect motor, controls, starter, pushbuttons, solenoids, etc. Clean, adjust, and lubricate as necessary.

3.8.1 For hydraulic units:

1. Inspect coupling, pump, control valves, piping, relief valve, reservoir, fill pipe, cap, vents, etc. Clean adjust, and lubricate as needed.
2. Inspect cylinder, ram, packing glands, etc. Add or renew packing as required.
3. Change oil as required.

3.8.2 For electro-mechanical and air bag units:

1. Clean and inspect air bag, coupling, reduction gear, sprockets, chain, gear trains, screw and lever, and/or other mechanical features. Look for misalignment, loose bolts, evidence of binding or wear, excessive clearance, etc. Tighten as necessary.
2. Examine lubrication devices. Service if required.
3. Test operation of ramp in all directions using a load if possible. Ensure ramp holds and does not creep when load is applied or removed. Adjust if necessary.
4. Check manual operation, power disengagement, etc.
5. Lubricate as required.
6. Identify and report any deficiencies.

3.9. GUIDE NUMBER MISC-9: FIRE DOORS - STAIRWELLS AND EXITWAYS (SWINGING)

Frequency: Quarterly

1. Remove all hold-open devices, except approved smoke or magnetic operated releases.
2. Check hang and swing for close fit. Doors must latch on normal closing cycle and have a neat fit.
3. Remove any obstructions that retard full swing or movement of door.
4. Test operation of panic hardware.
5. Inspect door coordinates on pairs.
6. Check operation of any special devices such as smoke detectors or magnetic door releases.
7. Inspect door for damage.
8. Identify and report any deficiencies.

3.10. GUIDE NUMBER MISC-10: FIRE DOORS - SLIDING TYPE

Frequency: Quarterly

1. Clean track.
2. Lubricate all pulleys.
3. Inspect for damage, worn and binding cable or chain, and proper threading through pulleys.
4. Replace fusible links and other heat-actuated devices that have been painted. Check operation of heat-actuated devices, other than fusible links.
5. Replace damaged or stretched cables or chains. Adjust to proper length.
6. Check counterweight for proper suspension.
7. Operate door by disconnecting or lifting counterweight, or by other appropriate means.
8. Check for proper fit in binders and tight fit of wedge against stay roll. Inspect stay roll for wear.
9. Check for breaks in face covering of doors.
10. Examine metal clad doors for deterioration.
11. Inspect all hardware for damage or wear.
12. Identify and report any deficiencies.

3.11. GUIDE NUMBER MISC-11: STATIONARY PACKERS

Frequency: Weekly

Observe all safety precautions. Observe current local ECP before performing activities listed below.

1. Oil shaft bearing under packer with appropriate lubricant.
2. Lubricate container roller fittings in axle.
3. Oil all moving joints on container door latch with appropriate lubricant.
4. Oil all container door hinges with appropriate lubricant.
5. Oil tie rod (Lock Hook) with appropriate lubricant. Inspect condition of cotter pins.
6. Wipe clean and apply heavy grease along top slide.
7. Wipe clean and apply heavy grease throughout length of slide channel.
8. Inspect cotter pins, closed end of packer cylinder. Look for signs of worn or broken cotter pins.
9. Ensure all dirt and debris has been cleared from under and around carriage of compaction unit.
10. Check open-end packer cylinder mounting pin.
11. Identify and report any deficiencies.

3.12. GUIDE NUMBER MISC-12: STATIONARY PACKERS

Frequency: Monthly

Observe all safety precautions. Observe current local ECP before performing activities listed below.

1. Remove breather cap on oil tank. Clean breather holes and replace cap. Do not press on so tightly as to block air passage.
2. Inspect mounting hardware on side and bottom slides. Check for lost or broken cotter pins and loose belts.
3. Check and tighten mounting hardware on scraper bar.
4. Identify and report any deficiencies.

3.13. GUIDE NUMBER MISC-13: STATIONARY PACKERS

Frequency: Quarterly

Observe all safety precautions. Observe current local ECP before performing activities listed below.

1. Check hydraulic oil for proper level and presence of contamination. Add or change oil as required.
2. Remove, clean, or replace oil filter.
3. Lubricate coupling following manufacturer specifications.
4. Identify and report any deficiencies.

3.14. GUIDE NUMBER MISC-14: POWER LIFTS

(Vert-A-Lift, etc. or other lift devices used in building maintenance)

Frequency: Monthly

Special Instructions: Daily battery charging, cleaning, and minor maintenance is done by personnel using the lift.

1. Visually check for needed repairs, leaks, etc.
2. Check battery water level and specific gravity.
3. Check electrical terminals. Tighten and clean as required.
4. Check and tighten critical structural bolts.
5. Lubricate in accordance with manufacturer instructions.
6. Identify and report any deficiencies.

3.15. GUIDE NUMBER MISC-15: SNOW BLOWER, WALKING TYPE

Frequency: Annually or every 50 run hours

Application: Gasoline-powered, walk-behind type. Routine daily lubrication should be accomplished by the operator.

1. Change engine oil. Oil should be changed, and gasoline drained at end of season prior to storage.
2. Service fuel filters.
3. Check for rust, and apply paint or preservative as appropriate.
4. Clean and gap or replace spark plug.
5. Inspect for proper adjustment and operation.
6. Identify and report any deficiencies.

3.16. GUIDE NUMBER MISC-16: DOCK LEVELERS, MANUAL

Frequency: Quarterly

Safety: Block dock boards in up position with an approved device.

1. Clean trash and dirt from pit.
2. Check clevis pins for wear and presence of clevis pin retainers.
3. Check springs and cable for wear.
4. Lubricate moving parts as required.
5. Check for proper operation.
6. Identify and report any deficiencies.

3.17. GUIDE NUMBER MISC-17: SWEEPERS, ELECTRIC (BATTERY)

Frequency: 4-12 Times Per Year

3.17.1 Checkpoints:

1. Check battery for correct water level. Add water if required.
2. Check battery terminals and cable clamps for corrosion and looseness.
3. Check hydraulic pump, hoses, lines, fittings, etc. for noise, leakage, and damage.
4. Check condition of tank and dust filter. Clean filter in solvent as necessary.
5. Check belts and chains for proper tension, wear, alignment, and general condition.
6. Check operational controls for proper operation.
7. Check dust skirts for proper adjustment.
8. Check hydraulic fluid and add lubricant #HY-2 as required. Replace filter as necessary.
9. Follow manufacturer's instructions regarding preventive maintenance.

3.18. GUIDE NUMBER MISC-18: FLOOR SCRUBBER, AUTOMATIC

(Battery-powered scrubber vacuum)

Frequency: 4-12 Time Per Year

Special Instructions: The daily charging of the batteries shall be done by the operator.

3.18.1 Checkpoints:

1. Check condition and adjustment of squeegee brushes, etc. and replace as needed.
2. Check electrical terminals. Clean and renew as needed.
3. Check the specific gravity of battery electrolyte and replace to determine that batteries are good and being properly charged.
4. Visually check machine for need of repairs, leaks, etc.
5. Lubricate in accordance with manufacturer's instructions.

3.19. GUIDE NUMBER MISC-19: LEAD ACID PIV BATTERY

Frequency: Semiannual

Special Instructions: Clean batteries within the controlled confines of a battery charging room with proper ventilation and drainage in an acid neutralization pit at least once every 6 months as follows:

1. Wear face shield, goggles, rubber gloves, apron and rubber boots.
2. Remove battery from vehicle.
3. Make sure all vent caps are tight.
4. Wash the top of the battery with a solution of 1 pound of baking soda to 1 gallon of water. Utilize a battery washer when available.
5. Rinse with clear water and allow it to dry.

3.20. GUIDE NUMBER MISC-20: TRAILER RESTRAINTS

Frequency: Quarterly

Perform periodic inspection of components for damage or excessive wear.

1. Check Bumper for damage or deformation. Ensure mounting hardware is tight.
2. Check frame, welds, and motor mounts for cracks. Ensure mounting hardware is tight. Ensure concrete anchor bolts are tight and intact.
3. Check electrical boxes and panels for water penetration.
4. Ensure chain tension (if applicable) and brake torque (if applicable) is within manufacture's specifications.
5. Lubricate rollers and drive chains as needed.
6. Generate work orders for any issues needing attention.

3.21. GUIDE NUMBER MISC-21: TRAILER RESTRAINTS

Frequency: Annual

1. Verify hook arm adjustment/alignment is within manufacture’s specifications.
2. Generate work orders for any issues needing attention.

4.0. GUIDE SET PLUM

4.1. GUIDE NUMBER PLUM-1: FIRE EXTINGUISHER, PORTABLE, STORED-PRESSURE

Frequency: Annual

Special Instructions: This maintenance is a thorough examination for deficiencies requiring replacement. Fire extinguishers needing repair are to be replaced. Extinguishers removed from service must be immediately replaced with one of suitable extinguishing capabilities. The monthly inspection must be performed at the same time this annual maintenance is performed. Unless otherwise indicated, this guide is applicable to stored-pressure type extinguishers, with or without pressure gauge, regardless of the extinguishing agent used, e.g., multipurpose dry chemical, etc. Review MS-56 for additional information on fire extinguishing equipment.

1. Read Form 4705, Inspection tag and note if hydrostatic testing is required before the next annual maintenance. Report those due testing to maintenance supervisor or control office for replacement before due date. See MS-56 for test frequency.
2. Inspect the shell for corrosion, mechanical damage (denting or abrasion), paint condition, presence of repairs (welding, soldering, brazing, etc.), and broken hanger attachment concealing surface damage (nicks or corrosion).
3. Inspect the nameplate for illegible wording, corrosion, and loose plate. Replace labels with the new, pictographic type. See MS-56.
4. Inspect the nozzle for damage, deformation, cracks, blocked openings, damaged threads (corroded, cross-threaded, or worn), and aging (brittleness).
5. Inspect hose assembly for damaged hose (cut, cracked, worn, or plugged), damaged couplings, or swivel joint (cracked or corroded), damaged threads (corroded, cross-threaded, or worn), and inner tube cut at couplings.
6. Ensure the valve-locking device is in place and inspect for damage (bent, corroded, or binding).
7. If extinguisher has a pressure gauge, tap gauge lightly to determine if pointer is stuck or jammed. Inspect for missing pointer; missing, deformed, or broken crystal; illegible or faded dial; corrosion, dented case, and damaged crystal retainer. Read gauge. If not in operating range, remove and replace extinguisher.
8. If extinguisher is a non-gauge type, inspect for immovable or corroded pressure-indicating stem.
9. Ensure seal or tamper indicator is not missing or broken. Replace extinguisher if seal or tamper indicator is missing or broken.
10. Complete applicable portions of Form 4705, Fire Inspection Tag.
11. Check for proper alarm and signal operation.
12. Tighten loose parts as necessary.
13. Identify and report any deficiencies.

4.2. GUIDE NUMBER PLUM-2: SUMP PUMPS

Frequency: Annual

1. Pump out and remove pit sediment.
2. Inspect and clean strainer.
3. Flush pit and wipe pump down.
4. Repack (if required) and lubricate pumps.
5. Check bail, float, rod, and guides.
6. Inspect motor, switch, controls, etc. Clean, adjust, and lubricate as required.
7. Check pumps operation. Observe operation of check valve(s).
8. Inspect piping, pipe supports, etc.
9. Clean up area.
10. Identify and report any deficiencies.

4.3. GUIDE NUMBER PLUM-3: VALVES, REGULATING

(Steam valves at pressure reduction stations)

Frequency: Annual

Application: Single or double seated; diaphragm or spring loaded, pilot operated valves.

1. Clean strainer ahead of valve.
2. Check valve head and seats for wear or cuts.
3. Replace valve(s) as necessary.
4. Examine steam quality for foreign matter if valves are damaged.
5. Examine pilot lines for dirt.
6. Check steam gauges.
7. Check diaphragms for failures.
8. Check binding valve stem.
9. Adjust weighted lever or spring control tension.
10. Identify and report any deficiencies.

4.4. GUIDE NUMBER PLUM-4: VALVES, MANUALLY OPERATED (MAIN LINE)

Frequency: Main line: Annual; Other valves over 2 inches: 5 Years

Application: For valves other than those used on Fire Protection systems. Maintenance for valves used on fire protection systems is described under the appropriate guide for the specific item of fire protection equipment.

1. Exercise valve from one limit to the other (fully open to fully closed) to test freedom of motion. Lubricate stem and moving parts with appropriate lubricant.
2. Verify valve seats and holds properly.
3. Check packing gland, adjust, and lubricate. Repack as required.
4. For valves equipped with wheel and chain for remote operation, verify freedom of motion.
5. Identify and report any deficiencies.

4.5. GUIDE NUMBER PLUM-5: VALVES, MOTOR OPERATED

Frequency: Annual

1. Clean unit and examine all parts.
2. Operate from limit to limit. Observe operation; look for binding, sluggishness, action of limits, etc.
3. Verify valve seats and holds properly.
4. Apply appropriate lubricant to moving parts of valve.
5. Lubricate motor and gear box as necessary.
6. Inspect contacts, brushes, motor controls, switches, etc. Clean and adjust as necessary.
7. Identify and report any deficiencies.

4.6. GUIDE NUMBER PLUM-6: STEAM TRAPS, ALL TYPES

Frequency: Annual (All types, low or high pressure)

Special Instructions: Check trap operation under steam pressure. Remove and replace faulty traps or trap elements. Ensure all safety requirements are followed.

4.6.1 Thermostatic traps (bellows or diaphragm type)

1. Remove cap or bonnet.
2. Clean interior of trap, valve, and seat.
3. Inspect bellows or diaphragm and note by sound whether it contains liquid charge.
4. Replace bellows or diaphragms as necessary.
5. If valve seat is cut, replace seat.

4.6.2 Float and/or Thermostatic traps

1. Remove bonnet.
2. Inspect linkage and float operation for leakage, defective operation, or deterioration.
3. Examine, clean, and check operation of bellows as in 1 above.

4.6.3 Inverted bucket trap

1. Remove bonnet.
2. Clean interior trap.
3. Inspect valve linkage mechanism and seating of valve.
4. Examine condition of bucket.
5. Examine vent or race, inlet, and outlet for evidence of corrosion.

4.6.4 Impulse trap

1. Remove bonnet.
2. Inspect valve disc, inlet valve, and outlet surface.
3. See that fulcrum point is free of dirt.
4. Clean body of trap.
5. Identify and report any deficiencies.

4.7. GUIDE NUMBER PLUM-7: PUMPS, CENTRIFUGAL

Frequency: Annual

1. While pump is in operation, check performance, bearing temperature, stuffing box operation, pressure gauge, and flow indicators.
2. Shut down, lock out, and drain pump housing. Suction and discharge valves should hold.
3. Remove gland.
4. Examine shaft sleeve for wear; replace as necessary.
5. Adjust gland evenly, finger tight.
6. On pumps with oil ring lubrication, drain oil, flush, and then fill to proper oil level with new oil.
7. Perform lubrication in accordance with manufacturer instructions.
8. Clean strainers.
9. Put pump into operation. Stop and start pump. Check undue vibration noise, pressure, and action of check valve.
10. If test is satisfactory, start pump again, and adjust to slight leakage through gland.
11. When pump reaches normal operating temperatures, check pump and drive alignment.
12. Identify and report any deficiencies.

4.8. GUIDE NUMBER PLUM-8: ROOF, INSPECTION

Frequency: Semiannual

Special Instructions: Sites develop local calculations for the roof inspection and justification is required.

4.8.1 Roofing System

Safety: Comply with all safety rules for working on roof-top. Check all tools and equipment for safe condition (ladders, rope safety lines, etc.). Review EL-801, Supervisor's Safety Handbook.

Clean all trash and debris from drains. Check each drain for missing, broken or corroded covers, proper drainage, tightness, gravel stop, etc. Carefully inspect roof mat around each drain.

4.9. GUIDE NUMBER PLUM-9: HOT WATER HEATERS (CONVERTERS)

Frequency: Annual

Application: This guide applies to converters and heat exchangers that use steam to heat water for hot water heating systems.

1. With system in operation, check for steam and water leaks (interior and exterior).
2. Drain and flush tanks (storage and expansion).
3. Remove rust and scale; note rate of corrosion.
4. Remove coil or element; clean and examine condition.
5. Clean, adjust, and calibrate as required: thermometers, aquastats, pressure reducing and relief valves and gauges, temperature relief, and steam regulating and control valves.
6. Check operation and condition of all traps.
7. Clean pump. Clean out dirt from motor; check controls, switches, and starters. Check condition of packing or seal and replace as required.
8. Identify and report any deficiencies.

4.10. GUIDE NUMBER PLUM-10: HOT WATER HEATERS - DOMESTIC TYPE

(Gas or Oil Fired)

Frequency: Annual

Application: This applies to domestic-type hot water heaters like those in residences, but which can be much larger (50 to 400 gallon tanks) and have a circulating pump.

1. Check for leaks.
2. Flush tank to remove scale and sediment.
3. Check thermostat and controls for proper setting.
4. Clean combustion chamber at fireside heat transfer surfaces.
5. Set burner for efficient operation on oil fired units. Take flue gas CO2 reading to determine proper burner adjustment.
6. Clean and lubricate circulating pump.
7. Operate try lever on pressure-temperature relief device (valve). Water should now flow freely and stop when try lever is released. Replace valve if defective.
8. Identify and report any deficiencies.

4.11. GUIDE NUMBER PLUM-11: FIRE PUMPS, ELECTRIC MOTOR DRIVE

Frequency: Annual

Special Instructions: Review manufacturer instructions. Observe current local ECP. Give special attention to notifying all required officials that the fire pump will be out of service. Notice shall include estimated period of downtime and other special problems that may develop. If these work procedures can cause activation of an alarm and/or supervisory signal, the control center or fire department must be notified prior to starting work.

1. Clean motor with clean rag or vacuum.
2. Visually inspect windings for cleanliness. Check for coating of oil or grease without disassembling motor.
3. Perform lubrication according to manufacturer's recommendations.
4. Inspect for moisture and protection from water.
5. Check motor mountings, supports, and couplings for tightness or other defects.
6. Remove lockout and operate pump long enough to observe general operation. Note pressures, sound, vibration, odor, or temperatures.
7. If pump has automatic starting equipment, start it by activating the mechanism so the automatic devices are tested at the same time as the pump.
8. Secure pump and leave in ready-to-run condition.
9. Notify proper officials that unit is back in service.
10. Clean up area and return tools to proper storage.
11. Identify and report any deficiencies.

4.12. GUIDE NUMBER PLUM-12: FIRE PUMPS, INTERNAL COMBUSTION ENGINE DRIVE

Frequency: Annual

Special Instructions: Have approved fire extinguisher available. Do not allow flames or smoking in area. Use safety fuel cans only. Give special attention to notifying all required officials that the fire pump will be out of service. Notice shall include estimated period of downtime and other special problems that may develop. If these work procedures can cause activation of an alarm and/or supervisory signal, the control center and the fire department must be notified prior to starting work.

4.12.1 Gasoline or Natural Gas Engines:

1. Check distributor point dwell. Replace points, capacitor, rotor, and spark plugs after 100 hours of operation.
2. Set timing and distributor advance. Check at idle and operating speed.
3. Adjust governor and carburetor for proper operation and speeds.
4. Check fuel supply. Replace fuel within the manufacturer’s recommendations.
5. Change engine oil and filter and perform other lubrication of engine and pump.
6. Inspect cooling system for cleanliness, leaks, and anti-freeze solution. Check V-belt for proper tension. Adjust as necessary.

4.12.2 Diesel Engines:

1. Change fuel filters.
2. Inspect and adjust racks, injectors, or unit injectors according to manufacturer's instructions.
3. Check governor for proper speed; adjust as necessary.
4. Check fuel level, presence of water in fuel tank, or other contamination.
5. Change engine oil and filter. Perform other lubrication on engine and pump.
6. Inspect cooling system for leaks, cleanliness, and antifreeze solution. Check V-belt for proper tension. Adjust as necessary.

4.12.3 Diesel and Gas Engines:

1. Check mountings, supports, and couplings for tightness or defects.
2. Remove lockout and operate pump long enough to observe general operation. Note pressure, sound, vibration, odor, and temperatures.
3. If pump has automatic starting equipment, start it by activating the mechanism so the automatic devices are tested at the same time as the pump.
4. Secure pump and leave in ready-to-run condition.
5. Notify proper officials that the unit is back in service.

6. Clean up area and return tools to proper storage.
7. Identify and report any deficiencies.

4.13. GUIDE NUMBER PLUM-13: DRINKING WATER COOLERS

Frequency: Annual

4.13.1 Checkpoints:

1. Clean coils (vacuum) and fan blades.
2. Inspect P-trap, water supply valves, connections, and bubbler valve for proper operation.
3. Check belt for tightness and wear (if applicable).
4. Lubricate motor (if applicable).
5. Inspect for and repair leaks in refrigerant lines.

4.14. GUIDE NUMBER PLUM-14: EYEWASH

Frequency: Annual

Use Shower and Eyewash Flow Rate Test kit to avoid excessive water spillage.

4.14.1 Checkpoints for Plumbed Eyewash Stations:

1. Validate controlled, low velocity flow completely rinses eyes and face and is not injurious to user.
2. Ensure water flow is sufficiently high to allow user to hold eyes open while rinsing.
3. Ensure spray heads are protected from airborne contaminants, and covers are removed by water flow once unit is activated.
4. Ensure unit delivers at least .4 gallons of water per minute (GPM) for 15 minutes.
5. Confirm water flow pattern is positioned between 33” and 53” from the floor and at least 6” from the wall or nearest obstruction.
6. Confirm hands-free, stay-open valve activates in one second or less.
7. Ensure valve actuator is easy to locate and readily accessible to user.
8. Ensure unit washes both eyes simultaneously.
9. Ensure water flow covers are indicated a no more than 8” above spray heads.

4.15. GUIDE NUMBER PLUM-15: EMERGENCY SHOWERS

Frequency: Annual

Use Shower and Eyewash Flow Rate Test kit to avoid excessive water spillage.

4.15.1 Checkpoints for Plumbed Emergency Showers:

1. Ensure water supply is sufficient to provide at least 20 GPM for 0.3 hours.
2. Ensure hands-free valve activates in one second or less and remains open until manually closed.
3. Ensure shower delivers 20 gallons of water per minute for 15 minutes in the required pattern.
4. Verify height of water column is between 82” and 96” above the floor.
5. Verify center of the water pattern is at least 16” from any obstruction.
6. Verify accessible actuator is easily located and no more than 69” above floor.
7. Verify water pattern is at least 20” in diameter at 60” above the floor.
8. If provided, ensure shower enclosure has minimum diameter of 34”.

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ATTACHMENT 3

USPS BUILDING EQUIPMENT ANNUAL STAFFING

WORKHOUR REQUIREMENT FORMS

ATTACHMENT 3

1.0. STAFFING WORKHOUR REQUIREMENT FORMS

The following forms are an output from the entries made in the staffing software application.

- **PS Form 4893** – Annual Building Equipment Operational and Preventive Maintenance Workhour Summary (Figure 3-1)
- **PS Form 4893B** – Annual Building Equipment Override and Supplemental Maintenance Justification (Figure 3-2)
- **PS Form 4894, Page 1 of 2** – Annual Standard Requirement Building Operational Maintenance (Figure 3-3)
- **PS Form 4894, Page 2 of 2** – Annual Standard Requirement Building Operational Maintenance (Figure 3-4)
- **PS Form 4895** – Annual Workhour Requirement for Central Chill Water Plant Operational Maintenance (Figure 3-5)
- **PS Form 4896, Page 1 of 2** – Annual Supplemental Requirement for Building Preventive and Operational Maintenance (Figure 3-6)
- **PS Form 4896, Page 2 of 2** – Annual Supplemental Requirement for Building Preventive and Operational Maintenance (Figure 3-7)
- **PS Form 4896A, Page 1 of 3** – Annual Standard Requirement Building Preventive Maintenance (Figure 3-8)
- **PS Form 4896A, Page 2 of 3** – Annual Standard Requirement Building Preventive Maintenance (Figure 3-9)
- **PS Form 4896A, Page 3 of 3** – Annual Standard Requirement Building Preventive Maintenance (Figure 3-10)

FOR REVIEW PURPOSES - BLANK FORM

U.S. POSTAL SERVICE ANNUAL BUILDING EQUIPMENT OPERATIONAL AND PREVENTIVE MAINTENANCE WORKHOUR SUMMARY	BUILDING(s):	GROSS INTERIOR SQFT:	DATE: PREPARED BY:

LINE NO.	WORK DESCRIPTION	PREVENTIVE MAINTENANCE		OPERATIONAL MAINTENANCE			CORRECTIVE MAINTENANCE	TOTAL ANNUAL WORKHOURS
		4896A	4896	4894	4895	4896		
A	B	C	D	E	F	G	H	I
1	HVAC							
2	ELEC							
3	PLUM							
4	EMS							
5	MISC							
6	SUBTOTALS							
7	CORRECTIVE / MISC	*	*				**	
	TOTAL WORKHOURS							
	TOTAL FTE							

* 8% of the Subtotal
** 8 Hours per 1000 Gross Interior SQFT

PS FORM 12/28/2018 **4893 - BLANK FORM**

Figure 3-1. PS Form 4893 – Annual Building Equipment Operational and Preventive Maintenance Workhour Summary

FOR REVIEW PURPOSES - BLANK FORM

U.S. POSTAL SERVICE ANNUAL BUILDING EQUIPMENT OVERRIDE AND SUPPLEMENTAL MAINTENANCE JUSTIFICATION		BUILDING(s):	DATE: PREPARED BY:

TABLE A: OPERATIONAL MAINTENANCE				
GUIDE CAT/NO	TASK DESCRIPTION	EQUIPMENT TYPE	EQUIPMENT DESCRIPTION	JUSTIFICATION
OVERRIDE TASKS				
*				
*				
*				
*				
*				
SUPPLEMENTAL TASKS				
*				
*				
*				
*				
*				

TABLE B: PREVENTIVE MAINTENANCE				
GUIDE CAT/NO	TASK DESCRIPTION	EQUIPMENT TYPE	EQUIPMENT DESCRIPTION	JUSTIFICATION
OVERRIDE TASKS				
*				
*				
*				
*				
*				
SUPPLEMENTAL TASKS				
*				
*				
*				
*				
*				

PS FORM
12/28/2018 **4893B - BLANK FORM**

Figure 3-2. PS Form 4893B – Annual Building Equipment Override and Supplemental Maintenance Justification

FOR REVIEW PURPOSES - BLANK FORM

U.S. POSTAL SERVICE ANNUAL STANDARD REQUIREMENT BUILDING OPERATIONAL MAINTENANCE		BUILDING(s):	DATE: PREPARED BY:

TABLE A: HVAC

GUIDE NO	TASK DESCRIPTION	QUANTITY	FREQUENCY	WORK HOURS (per freq)	ANNUAL TRAVEL TIME	TOTAL ANNUAL WORKHOURS
HVAC-12	FANS CENTRIFUGAL >15HP		12	0.03		
NONE	FANS PROPELLER >=24INCHES		12	0.03		
SUBTOTAL						

TABLE B: ELEC

GUIDE NO	TASK DESCRIPTION	QUANTITY	FREQUENCY	WORK HOURS (per freq)	ANNUAL TRAVEL TIME	TOTAL ANNUAL WORKHOURS
NONE	BATTERY SYSTEM, 24 VOLT		1	0.08		
NONE	BATTERY SYSTEM, 48 VOLT		1	0.16		
NONE	BATTERY SYSTEM, 120 VOLT		1	0.33		
EMS-11	GROUND FAULT CIRCUIT INTERRUPTER (GFCI)		2	0.02		
NOGUIDE1	MAIN ELECTRICAL CUBICLE/SWITCHGEAR ROOMS (>600VAC)		52	0.08		
NOGUIDE2	SWITCHBOARD ROOMS (<600VAC)		52	0.05		
NOGUIDE3	TRANSFORMER VAULTS		52	0.06		
SUBTOTAL						

TABLE C: PLUM

GUIDE NO	TASK DESCRIPTION	QUANTITY	FREQUENCY	WORK HOURS (per freq)	ANNUAL TRAVEL TIME	TOTAL ANNUAL WORKHOURS
NOGUIDE4	HYDRO-PNEUMATIC SYSTEM (INCL FIRE PROTECTION SYSTEM)			0.08		
NONE	PRESSURE REDUCING AND REGULATING STATIONS - STEAM AND WATER		1	0.02		
NONE	PUMPS >5HP, REMOTE FROM OTHER EQUIPMENT		1	0.03		
NONE	SUMP PUMP, OPERATIONAL		12	0.05		
SUBTOTAL						

TABLE D: EMS

GUIDE NO	TASK DESCRIPTION	QUANTITY	FREQUENCY	WORK HOURS (per freq)	ANNUAL TRAVEL TIME	TOTAL ANNUAL WORKHOURS
EMS-10	EMERGENCY EXIT SIGNS		1	0.02		
EMS-4	EMERGENCY EXIT SIGNS		12	0.02		
EMS 12	EMERGENCY EYEWASHES		12	0.02		
EMS-1	EMERGENCY EYEWASHES		52	0.10		
EMS-3	EMERGENCY LIGHTS		12	0.02		
EMS-9	EMERGENCY LIGHTS		1	0.02		
EMS-2	EMERGENCY SHOWERS		52	0.10		
EMS-7	FIRE EXTINGUISHER, PORTABLE, STORED-PRESSURE		12	0.02		
EMS-8	FIRE PUMPS		52	0.40		
SUBTOTAL						

Figure 3-3. PS Form 4894, Page 1 of 2 – Annual Standard Requirement Building Operational Maintenance

TABLE E: MISC

GUIDE NO	TASK DESCRIPTION	QUANTITY	FREQUENCY	WORK HOURS (per freq)	ANNUAL TRAVEL TIME	TOTAL ANNUAL WORKHOURS
SUBTOTAL						

PS FORM 12/28/2018 **4894 - BLANK FORM**

Figure 3-4. PS Form 4894, Page 2 of 2 – Annual Standard Requirement Building

Operational Maintenance

FOR REVIEW PURPOSES - BLANK FORM

U.S. POSTAL SERVICE **ANNUAL WORKHOUR REQUIREMENT FOR CENTRAL CHILL WATER PLANT OPERATIONAL MAINTENANCE**	BUILDING(s):	DATE: PREPARED BY:

BUILDING				
LINE NO.	EQUIPMENT DESCRIPTION	OPERATING DAYS	WORKHOURS (per day)	ANNUAL WORKHOURS
1			0.5	
2	SUBTOTAL			
3	BUILDING CHILLER OPERATING DAYS		0.5	
	TOTAL WORKHOURS *			

* Operational Checks are limited to one hour per operating day for the first chiller. All additional chillers are workloaded at 0.5 hours per operating day.

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Figure 3-5. PS Form 4895 – Annual Workhour Requirement for Central Chill Water Plant Operational Maintenance

FOR REVIEW PURPOSES - BLANK FORM

U.S. POSTAL SERVICE ANNUAL SUPPLEMENTAL REQUIREMENT FOR BUILDING PREVENTIVE AND OPERATIONAL MAINTENANCE	BUILDING(s):	DATE: PREPARED BY:

TABLE A: PREVENTIVE MAINTENANCE

GUIDE	TASK DESCRIPTION	EQUIPMENT TYPE	EQUIPMENT DESCRIPTION	FREQUENCY (per year)	WORKHOURS (per freq)	TOTAL WORKHOURS
						0
						0
						0
						0
						0
						0
						0
						0
						0
						0
						0
						0
						0
						0
						0
						0
						0
						0
						0
						0
	SUBTOTAL					0

TABLE B: OPERATIONAL MAINTENANCE

GUIDE	TASK DESCRIPTION	EQUIPMENT TYPE	EQUIPMENT DESCRIPTION	FREQUENCY (per year)	WORKHOURS (per freq)	TOTAL WORKHOURS
						0
						0
						0
						0
						0
						0
						0
						0
						0
						0
						0
						0
						0
						0
						0

Figure 3-6. PS Form 4896, Page 1 of 2 – Annual Supplemental Requirement for Building Preventive and Operational Maintenance

TABLE B: OPERATIONAL MAINTENANCE

GUIDE	TASK DESCRIPTION	EQUIPMENT TYPE	EQUIPMENT DESCRIPTION	FREQUENCY (per year)	WORKHOURS (per freq)	TOTAL WORKHOURS
						0
						0
						0
						0
						0
	SUBTOTAL					0

PS FORM 12/28/2018 **4896 - BLANK FORM**

Figure 3-7. PS Form 4896, Page 2 of 2 – Annual Supplemental Requirement for Building Preventive and Operational Maintenance

FOR REVIEW PURPOSES - BLANK FORM

U.S. POSTAL SERVICE ANNUAL STANDARD REQUIREMENT BUILDING PREVENTIVE MAINTENANCE	BUILDING(s):	DATE: PREPARED BY:

TABLE A: HVAC

GUIDE NO.	TASK DESCRIPTION	QUANTITY	FREQUENCY (per year)	WORK HOURS (per freq)	TOTAL WORK HOURS
HVAC-1	AC PACKAGE UNIT <10 TONS		1	8.50	
HVAC-1	AC PACKAGE UNIT >=10 TONS		1	10.00	
HVAC-2	AIR-CONDITIONING, WINDOW UNITS		1	0.50	
HVAC-3	AIR COOLED CONDENSERS <= 10 TONS		1	0.75	
HVAC-3	AIR COOLED CONDENSERS >10 TONS and <=30 TONS		1	1.00	
HVAC-3	AIR COOLED CONDENSERS >30 TONS		1	1.75	
HVAC-4	AIR HANDLERS >10HP		1	4.50	
HVAC-4	AIR HANDLERS <=10HP		1	2.50	
HVAC-5	BOILERS, OIL FIRED		1	10.00	
HVAC-6	BOILERS, CAST-IRON AND STEEL		1	10.00	
HVAC-7	BURNER, GAS		1	5.00	
HVAC-8	BURNER, OIL		1	5.00	
HVAC-9	COILS, PREHEAT, REHEAT, ETC. (REMOTE FROM AIR HANDLER)		1	1.00	
HVAC-10	CONDENSATE OR VACUUM PUMPS (ON STEAM RETURN SYSTEM)		1	2.00	
HVAC-11.1	COOLING TOWERS 501 - 1000 TON (PER CELL)		1	20.30	
HVAC-11.1	COOLING TOWERS 51 - 500 TON (PER CELL)		1	10.15	
HVAC-11.1	COOLING TOWERS <= 50 TON (PER CELL)		1	4.90	
HVAC-11.1	COOLING TOWERS > 1000 TON (PER CELL)		1	26.95	
HVAC-11.2	COOLING TOWERS 501 - 1000 TON (PER CELL)		1	8.70	
HVAC-11.2	COOLING TOWERS 51 - 500 TON (PER CELL)		1	4.35	
HVAC-11.2	COOLING TOWERS <= 50 TON (PER CELL)		1	2.10	
HVAC-11.2	COOLING TOWERS > 1000 TON (PER CELL)		1	11.55	
HVAC-12	FAN, CENTRIFUGAL <7HP		1	1.75	
HVAC-12	FAN, CENTRIFUGAL >=7HP		1	2.75	
HVAC-13	FILTERS, ROLL-TYPE, DISPOSABLE MEDIA		4	1.75	
HVAC-14	CONTROLS AND MECHANISMS ROLL TYPE FILTERS		1	1.50	
HVAC-15	FILTERS, THROW-AWAY		4	0.10	
HVAC-16	FAN, PROPELLER, PEDESTAL AND WALL MOUNTED		1	0.75	
HVAC-17	HEAT/COOLING UNIT, ROOF TOP		2	8.50	
HVAC-18	REFRIGERATION MACHINES, ABSORPTION TYPE <= 40 TONS		1	15.25	
HVAC-18	REFRIGERATION MACHINES, ABSORPTION TYPE 41 - 100 TONS		1	19.25	
HVAC-18	REFRIGERATION MACHINES, ABSORPTION TYPE 101 - 400 TONS		1	23.00	
HVAC-18	REFRIGERATION MACHINES, ABSORPTION TYPE > 400 TONS		1	30.75	
HVAC-19	REFRIGERATION MACHINES (CENTRIFUGAL AND RECIPROCATING) <= 40 TONS		1	23.00	
HVAC-19	REFRIGERATION MACHINES (CENTRIFUGAL AND RECIPROCATING) 41 - 100 TONS		1	31.00	
HVAC-19	REFRIGERATION MACHINES (CENTRIFUGAL AND RECIPROCATING) 101 - 350 TONS		1	39.00	
HVAC-19	REFRIGERATION MACHINES (CENTRIFUGAL AND RECIPROCATING) 351 - 500 TONS		1	59.00	
HVAC-19	REFRIGERATION MACHINES (CENTRIFUGAL AND RECIPROCATING) 501 - 750 TONS		1	66.00	
HVAC-19	REFRIGERATION MACHINES (CENTRIFUGAL AND RECIPROCATING) 751 - 1000 TONS		1	77.00	

Figure 3-8. PS Form 4896A, Page 1 of 3 – Annual Standard Requirement Building

Preventive Maintenance

TABLE A: HVAC					
GUIDE NO.	TASK DESCRIPTION	QUANTITY	FREQUENCY (per year)	WORK HOURS (per freq)	TOTAL WORK HOURS
HVAC-19	REFRIGERATION MACHINES (CENTRIFUGAL AND RECIPROCATING) > 1000 TONS		1	96.00	
HVAC-20	HEATER, ELECTRIC, IN-DUCT		1	0.25	
HVAC-21	HEATER, ELECTRIC, BASEBOARD		1	0.15	
HVAC-22	UNIT HEATERS (STEAM AND HOT WATER)		1	1.00	
HVAC-23	UNIT HEATERS (GAS FIRED)		1	1.50	
HVAC-24	FIRE DAMPERS (IN DUCT)		1	0.20	
	SUBTOTAL				

TABLE B: ELEC					
GUIDE NO.	TASK DESCRIPTION	QUANTITY	FREQUENCY (per year)	WORK HOURS (per freq)	TOTAL WORK HOURS
ELEC-1	MOTORS		1	1.00	
ELEC-2	BACK-UP GENERATOR- GAS OR NATURAL GAS ENGINES		1	2.00 to 6.00	
ELEC-3	EMERGENCY GENERATORS, DIESEL POWER		1	3.00 to 8.00	
ELEC-4	GENERATORS, ALL OTHER TYPES		12	1.00 to 2.00	
ELEC-5	PANEL, ELECTRICAL (INFRARED SCAN)		1	0.15	
	SUBTOTAL				

TABLE C: PLUM					
GUIDE NO.	TASK DESCRIPTION	QUANTITY	FREQUENCY (per year)	WORK HOURS (per freq)	TOTAL WORK HOURS
PLUM-1	FIRE EXTINGUISHER, PORTABLE, STORED-PRESSURE		1	0.10	
PLUM-2	SUMP PUMPS		1	3.75	
PLUM-3	VALVES, REGULATING		1	1.00 to 4.00	
PLUM-4	VALVES, MANUALLY OPERATED (MAIN LINE)		1	1.00	
PLUM-4	VALVES, MANUALLY OPERATED (OTHER VALVES OVER 2 INCHES)		0.2	0.50	
PLUM-5	VALVES, MOTOR OPERATED		1	1.50	
PLUM-6	STEAM TRAPS, ALL TYPES		1	0.50	
PLUM-7	PUMPS, CENTRIFUGAL >=25HP		1	6.00	
PLUM-7	PUMPS, CENTRIFUGAL >5HP AND <25HP		1	4.00	
PLUM-8	ROOF, INSPECTION		2	1.00 to 2.00	
PLUM-9	HOT WATER HEATERS (CONVERTERS)		1	4.50	
PLUM-10	HOT WATER HEATERS, DOMESTIC TYPE		1	1.50	
PLUM-11	FIRE PUMPS, ELECTRIC MOTOR DRIVE		1	0.75	
PLUM-12	FIRE PUMPS, INTERNAL COMBUSTION ENGINE DRIVE		1	0.75 to 1.50	
PLUM-13	DRINKING WATER COOLERS		1	1.00	
PLUM-14	EYEWASH, PLUMBED		1	0.30	
PLUM-15	SHOWERS, EMERGENCY		1	0.30	
	SUBTOTAL				

TABLE D: EMS					
GUIDE NO.	TASK DESCRIPTION	QUANTITY	FREQUENCY (per year)	WORK HOURS (per freq)	TOTAL WORK HOURS
EMS-5	EMERGENCY GENERATORS		12	1.00 to 2.00	
EMS-6	FIRE ALARM BOXES (MANUAL)		4 to 6	0.10	
	SUBTOTAL				

Figure 3-9. PS Form 4896A, Page 2 of 3 – Annual Standard Requirement Building Preventive Maintenance

TABLE E: MISC					
GUIDE NO.	TASK DESCRIPTION	QUANTITY	FREQUENCY (per year)	WORK HOURS (per freq)	TOTAL WORK HOURS
MISC-1	AIR COMPRESSORS		1	1.00	
MISC-2	LAWNMOWERS AND EDGERS		2	1.00	
MISC-3	SWEEPERS (GASOLINE)		2 to 6	2.00	
MISC-4	PAPER BALERS		1	3.00	
MISC-5	DOORS, POWER OPERATED		2	2.00	
MISC-6	DOOR, POWER-OPERATED MAIN ENTRANCE AND DOCK		4	1.00	
MISC-7	DOORS, MAIN ENTRANCE		2	1.00	
MISC-8	DOCK LEVELERS, POWERED		4	1.25	
MISC-9	FIRE DOORS, STAIRWELLS AND EXITWAYS (SWINGING)		4	0.10	
MISC-10	FIRE DOORS, SLIDING TYPE		4	0.10	
MISC-11	STATIONARY PACKERS		52	1.00	
MISC-12	STATIONARY PACKERS		12	1.00	
MISC-13	STATIONARY PACKERS		4	2.00	
MISC-14	POWER LIFTS		12	1.00	
MISC-15	SNOW BLOWER, WALKING TYPE		1	1.00	
MISC-16	DOCK LEVELERS, MANUAL		4	0.50	
MISC-17	SWEEPERS (BATTERY)		4 to 12	1.00	
MISC-18	FLOOR SCRUBBERS, AUTOMATIC; VACUUM, BATTERY POWERED		4 to 12	1.00	
MISC-19	BATTERY, PIV, FLOODED LEAD ACID		1	0.30	
MISC-20	TRAILER RESTRAINTS		2	0.50	
MISC-21	TRAILER RESTRAINTS		4	1.00	
MMO03718	COMPACTOR, PTR		1	27.03	
MMO16619	HOIST, 5 DAY OPERATION		260	0.15	
MMO16619	HOIST, 6 DAY OPERATION		312	0.15	
MMO16619	HOIST, 7 DAY OPERATION		364	0.15	
MMO16619	HOIST, MONTHLY		12	0.15	
MMO16619	HOIST, SEMI-ANNUAL (ALL)		2	0.93	
MMO16619	HOIST, SEMI-ANNUAL (PENTHOUSE)		2	0.15	
MMO16619	HOIST, WEEKLY		52	0.15	
	FORKLIFT		1	50.00	
	PALLET TRUCK, MOTORIZED		1	50.00	
	PALLET TRUCK, NON MOTORIZED		1	1.00	
	TOW TRACTOR		1	52.00	
	SUBTOTAL				

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Figure 3-10. PS Form 4896A, Page 3 of 3 – Annual Standard Requirement Building Preventive Maintenance

UNITED STATES POSTAL SERVICE

November 22, 2021

Shannon Richardson
Manager, Contract Administration APWU
475 L'Enfant Plaza SW, Room 9146
Washington DC 20260-4125

Subject: Article 19: mm21056.docx; MMO-057-21 Guidelines for Creating Detailed Local Building and Building Equipment Maintenance Preventive Maintenance Checklists

The purpose of this Maintenance Management Order (MMO) is to provide local maintenance managers with guidelines to develop detailed Building and Building Equipment Maintenance Preventive Maintenance (PM) checklists. Attachment 1 provides a table listing equipment and corresponding PM guidelines. Attachment 2 provides the PM guides. Attachment 3 provides sample USPS Building Equipment Annual Staffing Workhour Requirement Forms. This bulletin applies to Acronym ADMIN, Class Code AA. This bulletin supersedes MMO-007-20.

Changes made to previous bulletin version:

Transmittal letter (TL), second paragraph, first sentence “manufacturer’s recommendations” changed to “manufacturer's requirements.”

Rationale: Updated for clarity.

TL, second paragraph, added second sentence, “Manufacturer recommendations may be considered with justification as it relates to Occupational Safety and Health Administration (OSHA), federal, state, and local regulations.”

Rationale: Updated for clarity.

TL, last paragraph. Changed from: “For questions or comments concerning this bulletin contact the MTSC HelpDesk, either online at MTSC>HELPDESK>Create/Update Tickets or call (800) 366-4123.”

Changed to, “For questions or comments concerning this bulletin, contact HQ Maintenance Operations at _HQMaintenanceOperations@usps.gov.”

Rationale: This bulletin is under Maintenance Operations control, which is responsible for answering questions about this bulletin, not MTSC.

8403 LEE HIGHWAY
MERRIFIELD, VA 22082-8101
TEL: (703) 280-7021
FAX: (651) 456-5960

Attachment 1, Section 1.0, Table 1-1

Added an eMARS Class Code column. Rationale: To provide additional information to clarify equipment types.

Line 3, added new item AGV Seegrid Server System, acronym/class code AGV_SZ. Rationale: New equipment since MMO-007-20 was issued.

Line 8, changed Air Curtain acronym to FAN. Was DOOR. Rationale: Acronym was incorrect in MMO-007-20.

Line 9, corrected class code to BA. Was AB. Rationale: Class code was incorrect in MMO-007-20.

Line 32, corrected class code to CA. Was RH. Rationale: Class code was incorrect.

Line 46, corrected class code to AP to match eMARS. Was AB. Rationale: Class code was incorrect.

Line 49 corrected class code to AP, was AG. Rationale: Class code was incorrect.

Line 50, corrected class code to AM, was AG. Rationale: Class code was incorrect.

Line 66, correct class code to PW, was EW. Rationale: Class code was incorrect.

Line 67, corrected class code to SW, was EW. Rationale: Class code was incorrect.

Line 74, corrected acronym/class code to HVACINS_CA, was FILTER_FC.
Rationale: Acronym/class code was incorrect.

Line 78 corrected class code to FS, was FC. Rationale: Class code was incorrect.

Line 97, corrected class code to EA, was BB. Rationale: Class code was incorrect.

Line 123, corrected Guide from PLUM 9 TO PLUM 10. Rationale: Incorrect guide was identified on previous version.

Line 153, corrected acronym to PLUMB, was PUMP. Rationale: Acronym was incorrect.

Line 156, corrected acronym to PLUMB_PC, was PUMP_AB. Rationale: Acronym/class code was incorrect.

Added new item. Line 172 Sprinkler Head (Sprinkled Areas), Fire Suppression System, acronym EMSYS_FS, guide EMSYS MMO. Rationale: Added due to NFPA 25.5.2.1.1 requirement.

Line 187, added new item. Valve, Fire Control, Fire Suppression System, acronym EMSYS_FS, guide EMSYS MMO. Rationale: Added due to NFPA 13.13.2.2 requirement.

Attachment 2, added many missing safety admonitions and steps to close/replace doors/panels.

Section 1.1 GUIDE NUMBER HVAC-1: AIR-CONDITIONING MACHINE PACKAGE UNITS

Added “Warning Energized equipment may expose personnel to potential hazards. Before performing the following procedure, power down and lockout the equipment as prescribed by the local lockout/restore procedures developed in accordance with the current local ECP providing lockout/restore procedures. Failure to comply may cause injury or death.”

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MERRIFIELD, VA 22082-8101
TEL: (703) 280-7021
FAX: (651) 456-5960

Rationale: Admonition missing and needed for employee safety.

Section 1.2 GUIDE NUMBER HVAC-2: AIR-CONDITIONING, WINDOW UNITS

Added, “WARNING Energized equipment may expose personnel to potential hazards. Before performing the following procedure, power down and lockout the equipment as prescribed by the local lockout/restore procedures developed in accordance with the current local ECP providing lockout/restore procedures. Failure to comply may cause injury or death.”

Added, “NOTE Review manufacturer instructions.”

Rationale: Admonitions missing and needed for employee safety.

Section 1.3 GUIDE NUMBER HVAC-3: AIR-COOLED CONDENSERS

Added “WARNING Energized equipment may expose personnel to potential hazards. Before performing the following procedure, power down and lockout the equipment as prescribed by the local lockout/restore procedures developed in accordance with the current local ECP providing lockout/restore procedures. Failure to comply may cause injury or death.”

Rationale: Admonition missing and needed for employee safety.

Section 1.4 GUIDE NUMBER HVAC-4: AIR HANDLERS

Added, “WARNING Energized equipment may expose personnel to potential hazards. Before performing the following procedure, power down and lockout the equipment as prescribed by the local lockout/restore procedures developed in accordance with the current local ECP providing lockout/restore procedures. Failure to comply may cause injury or death.”

Rationale: Admonition missing and needed for employee safety.

Sections 1.4.1 Fans, 1.4.3 Drives (Belt and Direct), 1.4.4 Coils, and 1.4.6 Controls

Added Step 3 “Restore covers/panels, if necessary” to each section.

Rationale: Step to restore panels/heads/covers was missing.

Section 1.5 GUIDE NUMBER HVAC-5: BOILERS, OIL FIRED

Added, “WARNING Energized equipment may expose personnel to potential hazards. Before performing the following procedure, allow boiler to cool, lock out power to oil pumps and blowers, and close and lock out valves. Power down and lockout the equipment as prescribed by the local lockout/restore procedures developed in accordance with the current local ECP providing lockout/restore procedures. Failure to comply may cause injury or death.”

Rationale: Admonition missing and needed for employee safety.

Added Step 4 “Restore cover/panel.

Rationale: Step to restore panels/heads/covers was missing.

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TEL: (703) 280-7021
FAX: (651) 456-5960

Section 1.6 GUIDE NUMBER HVAC-6: BOILERS, CAST-IRON AND STEEL

Added, “WARNING Energized equipment may expose personnel to potential hazards. Before performing the following procedure, allow boiler to cool, lock out power to oil pumps and blowers, and close and lock out valves. Power down and lockout the equipment as prescribed by the local lockout/restore procedures developed in accordance with the current local ECP providing lockout/restore procedures. Failure to comply may cause injury or death.”

Rationale: Admonition missing and needed for employee safety.

Section 1.6.1 General

Added Step 3 “Restore covers/panels.”

Rationale: Step to restore panels/heads/covers was missing

Section 1.6.2 Watersides

Added Step 3d “Restore covers/panels.”

Rationale: Step to restore panels/heads/covers was missing.

Section 1.6.3 Exterior and Firesides

Added Step 12 “Restore covers/panels.”

Rationale: Step to restore panels/heads/covers was missing.

Section 1.7 GUIDE NUMBER HVAC-7: BURNER, GAS

Added, “WARNING Activities in this guide require work to be performed with the equipment powered on and covers/panels open. Energized equipment may expose personnel to potential hazards. Follow all manufacturer recommendations. Failure to comply may result in injury or death.”

Rationale: Admonition missing and needed for employee safety.

Added Step 8 “Restore covers/panels.”

Rationale: Step to restore panels/heads/covers was missing.

Section 1.8 GUIDE NUMBER HVAC-8: BURNER, OIL

Added, “WARNING Activities in this guide require work to be performed with the equipment powered on and covers/panels open. Energized equipment may expose personnel to potential hazards. Follow all manufacturer recommendations. Failure to comply may result in injury or death.”

Added before Step 9, “WARNING Energized equipment may expose personnel to potential hazards. Before performing the following procedure, power down and lockout the equipment as prescribed by the local lockout/restore procedures developed in accordance with the current MMO providing lockout/restore procedures. Failure to comply may cause injury or death. “

Rationale: Admonitions missing and needed for employee safety.

Added Step 18 “Restore covers/panels.”

Rationale: Step to restore panels/heads/covers was missing.

Section 1.9 GUIDE NUMBER HVAC-9: COILS, PREHEAT, REHEAT, ETC. (REMOTE FROM AIR HANDLER)

Added Step 5 “Restore covers/panels.”

Rationale: Step to restore panels/heads/covers was missing.

Section 1.10 GUIDE NUMBER HVAC-10: CONDENSATE OR VACUUM PUMPS (ON STEAM RETURN SYSTEM)

Added Step 16 “Restore covers/panels.”

Rationale: Step to restore panels/heads/covers was missing.

Section 1.11 GUIDE NUMBER HVAC-11.1: COOLING TOWERS STARTUP (SPRING)

Added, “WARNING Energized equipment may expose personnel to potential hazards. Before performing the following procedure, power down and lockout the equipment as prescribed by the local lockout/restore procedures developed in accordance with the current local ECP providing lockout/restore procedures. Failure to comply may cause injury or death.”

Rationale: Admonition missing and needed for employee safety.

Added Step 8 “Restore all covers/panels.”

Rationale: Step to restore panels/heads/covers was missing.

Section 1.12 GUIDE NUMBER HVAC-11.2: COOLING TOWERS SHUTDOWN (FALL)

Added, “WARNING Energized equipment may expose personnel to potential hazards. Before performing the following procedure, power down and lockout the equipment as prescribed by the local lockout/restore procedures developed in accordance with the current local ECP providing lockout/restore procedures. Failure to comply may cause injury or death.”

Rationale: Admonition missing and needed for employee safety.

Added Step 3 “Restore all covers/panels.”

Rationale: Step to restore panels/heads/covers was missing.

Section 1.13 GUIDE NUMBER HVAC-12: FANS, CENTRIFUGAL

Added, “WARNING Energized equipment may expose personnel to potential hazards. Before performing the following procedure, power down and lockout the equipment as prescribed by the local lockout/restore procedures developed in accordance with the current local ECP providing lockout/restore procedures. Failure to comply may cause injury or death.”

Added, “NOTE Obtain and review manufacturer instructions.”

Rationale: Admonitions missing and needed for employee safety.

Section 1.14 GUIDE NUMBER HVAC-13: FILTERS, ROLL-TYPE DISPOSABLE MEDIA

Added, “WARNING Energized equipment may expose personnel to potential hazards. Before performing the following procedure, power down and lockout the equipment as prescribed by the local lockout/restore procedures developed in accordance with the current local ECP providing lockout/restore procedures. Failure to comply may cause injury or death.”

Added, “NOTE Obtain and review manufacturer instructions.”

Rationale: Admonitions missing and needed for employee safety.

Added Step 3 “Restore all covers/panels.”

Rationale: Step to restore panels/heads/covers was missing.

Section 1.15 GUIDE NUMBER HVAC-14: CONTROLS AND MECHANISMS ROLL TYPE FILTERS

Added, “WARNING Energized equipment may expose personnel to potential hazards. Before performing the following procedure, power down and lockout the equipment as prescribed by the local lockout/restore procedures developed in accordance with the current local ECP providing lockout/restore procedures. Failure to comply may cause injury or death.”

Added, “NOTE Obtain and review manufacturer instructions.”

Rationale: Admonitions missing and needed for employee safety.

Added Step 7 “Restore all covers/panels.”

Rationale: Step to restore panels/heads/covers was missing.

Section 1.16 GUIDE NUMBER HVAC-15: FILTERS, THROW-AWAY

Added, “WARNING Before performing the following task, power down and lock out the equipment as prescribed by the local energy control procedures developed in accordance with the current local ECP providing lockout/restore procedures. Failure to comply may result in personal injury or death, and/or damage to equipment.”

Rationale: Admonition missing and needed for employee safety.

Added Step 5 “Restore all covers/panels.”

Rationale: Step to restore panels/heads/covers was missing.

Section 1.17 GUIDE NUMBER HVAC-16: FANS, PROPELLER

Added three admonitions, “WARNING Before performing the following task, power down and lock out the equipment as prescribed by the local energy control procedures developed in accordance with the current local ECP providing lockout/restore procedures. Failure to comply may result in personal injury or death, and/or damage to equipment.”

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MERRIFIELD, VA 22082-8101
TEL: (703) 280-7021
FAX: (651) 456-5960

"WARNING Visually inspect portable ladders prior to each use. These visual inspections are intended to help ensure that each ladder will be safe during operation. Failure to comply may result in injury. Refer to Handbook EL-803 Maintenance Employee's Guide to Safety, Section VIII for more information and MMO-115-17 Inspection and Usage of Portable Ladders."

"WARNING These procedures may require using a ladder. Using a ladder presents a falling hazard. Never overreach or lean away from the ladder. Precautions must be taken to prevent falls from heights that may cause personal injury. Follow local safety procedures for fall prevention. Failure to comply may cause injury or death and/or equipment damage."

Rationale: Admonitions missing and needed for employee safety.

Added Step 5 "Restore all covers/panels."

Rationale: Step to restore panels/heads/covers was missing.

Section 1.18 GUIDE NUMBER HVAC-17: HEAT/COOLING UNIT, ROOF TOP

Added, "WARNING Before performing the following task, power down and lock out the equipment as prescribed by the local energy control procedures developed in accordance with the current local ECP providing lockout/restore procedures. Failure to comply may result in personal injury or death, and/or damage to equipment."

Added, "WARNING Verify with your supervisor that roof access is permitted before attempting to gain access to the roof. Employees who access a walking-working surface with unprotected sides or edges that are 4 feet or more above a lower level must have one of the following to protect the employee: guardrail systems; safety net systems; or personal fall protection systems, such as personal fall arrest, travel restraint, or positioning systems. Employee must contact a supervisor if this Personal Protective Equipment (PPE) is not available."

Rationale: Admonitions missing and needed for employee safety.

Added Step 8 "Restore all covers/panels."

Rationale Step to restore panels/heads/covers was missing.

Section 1.19 GUIDE NUMBER HVAC-18: REFRIGERATION MACHINES, ABSORPTION TYPE

Added, "WARNING Energized equipment may expose personnel to potential hazards. Before performing the following procedure, power down and lockout the equipment as prescribed by the local lockout/restore procedures developed in accordance with the current local ECP providing lockout/restore procedures. Failure to comply may cause injury or death."

Rationale: Admonition missing and needed for employee safety.

Section 1.19.1 Evaporator Circuit

Added Step 7, "Restore covers/panels."

Rationale: Step to restore panels/heads/covers was missing.

Section 1.19.2 Solution Circuit

Added Step 5. “Restore covers/panels.”

Rationale: Step to restore panels/heads/covers was missing.

Section 1.19.3 Condenser Circuit

Added Step 3 “Restore covers/panels.”

Rationale: Step to restore panels/heads/covers was missing.

Section 1.19.4 Purge System

Added Step 5 “Restore covers/panels.”

Rationale: Step to restore panels/heads/covers was missing.

Section 1.19.5 Controls

Added Step 4 “Restore covers/panels.”

Rationale: Step to restore panels/heads/covers was missing.

Section 1.20 GUIDE NUMBER HVAC-19: REFRIGERATION MACHINES (CENTRIFUGAL AND RECIPROCATING)

Added, “WARNING Energized equipment may expose personnel to potential hazards. Before performing the following procedure, power down and lockout the equipment as prescribed by the local lockout/restore procedures developed in accordance with the current local ECP providing lockout/restore procedures. Failure to comply may cause injury or death.”

Rationale: Admonition missing and needed for employee safety.

Section 1.20.1 Compressor

Added to Step 17, “Restore all covers/panels.”

Rationale: Step to restore panels/heads/covers was missing.

Section 1.20.2 Chiller

Added to Step 6, “Replace heads.”

Rationale: Step to restore panels/heads/covers was missing.

Section 1.20.3 Water-Cooled Condensers,

Added to step 7, “Replace heads.”

Rationale: Step to restore panels/heads/covers was missing.

Section 1.21 GUIDE NUMBER HVAC-20: HEATER, ELECTRIC, IN-DUCT

8403 LEE HIGHWAY
MERRIFIELD, VA 22082-8101
TEL: (703) 280-7021
FAX: (651) 456-5960

Added Step 5 “Restore covers/panels.”

Rationale: Step to restore panels/heads/covers was missing.

Section 1.22 GUIDE NUMBER HVAC-21: HEATER, ELECTRIC, BASEBOARD

Added, “WARNING Before performing the following task, power down and lock out the equipment as prescribed by the local energy control procedures developed in accordance with the current local ECP providing lockout/restore procedures. Failure to comply may result in personal injury or death, and/or damage to equipment.”

Rationale: Admonition missing and needed for employee safety.

Added Step 2 “Replace cover.”

Rationale: Step to restore panels/heads/covers was missing.

Section 1.23 GUIDE NUMBER HVAC-22: UNIT HEATERS (STEAM AND HOT WATER)

Added before step 10, “WARNING Before performing the following task, power down and lock out the equipment as prescribed by the local energy control procedures developed in accordance with the current local ECP providing lockout/restore procedures. Failure to comply may result in personal injury or death, and/or damage to equipment.”

Rationale: Admonition missing and needed for employee safety.

Added Step 12 “Restore covers/panels.”

Rationale: Step to restore panels/heads/covers was missing.

Section 1.24 GUIDE NUMBER HVAC-23: UNIT HEATERS (GAS FIRED)

Added, “WARNING Before performing the following task, power down and lock out the equipment as prescribed by the local energy control procedures developed in accordance with the current local ECP providing lockout/restore procedures. Failure to comply may result in personal injury or death, and/or damage to equipment.”

Rationale: Admonition missing and needed for employee safety.

Added Step 6 “Restore covers/panels.”

Rationale: Step to restore panels/heads/covers before removing lockout was missing.

Section 1.25 GUIDE NUMBER HVAC-24: FIRE DAMPERS (IN-DUCT)

Replaced special instructions with “CAUTION Never replace fusible link with wire. On first inspection, make sure that the damper is not installed backwards. In all cases, the air movement should tend to close damper.”

Rationale: Admonition needed for employee safety.

Added new Section 1.26 GUIDE NUMBER HVAC-25: Split System Evaporator Units, Frequency: annual

WARNING Before performing the following task, power down and lock out the equipment as prescribed by the local energy control procedures developed in accordance with the current local ECP providing lockout/restore procedures. Failure to comply may result in personal injury or death, and/or damage to equipment.

1. Remove panels. Clean entire unit.
2. Clean drip pans and drains. Check for corrosion.
3. Replace worn belts and adjust proper tension.
4. Lubricate motor(s) and fan(s) bearings.
5. Check motor alignment and verify hardware is tight.
6. Change filters with USPS approved products.
7. Check filter switch (if equipped).
8. Operate unit and check for proper cooling.
9. Check thermostat.
10. Check fan and motor. Clean fan blades, motor, and lubricate bearings.
11. Run machine and check operation, water supply and control valves, suction and discharge pressures, need for refrigerant, recheck for leaks, functioning of controls, temperature of discharge, air, etc.
12. Check glycol pump for leaks and operation.
13. Check reheat (if equipped)
14. Check unit electrical connections.
15. Restore panels and clean up area and machine.
16. Identify and report any deficiencies.

Rationale: Guide was not previously identified. Added to provide guidance for systems frequently found in Postal environments.

Added new section 1.27 GUIDE NUMBER HVAC-26: SPLIT SYSTEM EVAPORATOR UNITS
Frequency: Monthly

WARNING Before performing the following task, power down and lock out the equipment as prescribed by the local energy control procedures developed in accordance with the current local ECP providing lockout/restore procedures. Failure to comply may result in personal injury or death, and/or damage to equipment.

1. Remove panels if necessary to access filters.
2. Change filters with USPS approved products
3. Check fan blades for free and easy movement.
4. Check for oil leaks.
5. Restore covers/panels.
6. Operate unit and check for proper cooling.
7. Identify and report any deficiencies.

Rationale: This guide was not previously identified. Added to provide guidance for systems frequently found in Postal environments. Renumbered and pushed down remaining guides in Section 1.

Section 2.1 GUIDE NUMBER ELEC-1: MOTORS

Added, “WARNING Before performing the following task, power down and lock out the equipment as prescribed by the local energy control procedures developed in accordance with

the current local ECP providing lockout/restore procedures. Failure to comply may result in personal injury or death, and/or damage to equipment."

Rationale: Admonition missing and needed for employee safety.

Changed Application to "NOTE This guide is for squirrel-cage, wound-rotor, and synchronous motors in excess of 5-horse power. The maintenance specified by this guide is not intended to require disassembly of the motor."

Rationale: Admonition missing and needed for clarity.

Changed special instructions to "NOTE Obtain and review manufacturer instructions."

Rationale: Admonition missing and needed for employee safety.

Section 2.2 GUIDE NUMBER ELEC-2: BACK-UP GENERATOR- GAS OR NATURAL GAS ENGINES

Replaced special instructions with "WARNING This task applies to fixed generators only. Review manufacturer instructions. If local staff does not have appropriate skills for steps below, this maintenance task should be contracted out.
Have approved type fire extinguishers readily available. Do not allow open flames or smoking in area. Use safety-type fuel cans only. Failure to comply may result in personal injury or death, and/or damage to equipment/building."

Rationale: Admonition missing and needed for employee safety.

Added Step 10 "Restore covers/panels."

Rationale: Step to restore panels/heads/covers was missing.

Section 2.3 GUIDE NUMBER ELEC-3: EMERGENCY GENERATORS - DIESEL POWER

Replaced special instructions with "WARNING This task applies to fixed generators only. Review manufacturer instructions. If local staff does not have appropriate skills for steps below, this maintenance task should be contracted out.
Have approved type fire extinguishers readily available. Do not allow open flames or smoking in area. Use safety-type fuel cans only. Failure to comply may result in personal injury or death, and/or damage to equipment/building."

Rationale: Admonition missing and needed for employee safety.

Added Step 10 "Restore covers/panels."

Rationale: Step to restore panels/heads/covers was missing.

Section 2.4 GUIDE NUMBER ELEC-4: EMERGENCY GENERATORS – ALL TYPES OF ENGINES

Replaced special instructions with "WARNING This task applies to fixed generators only. Review manufacturer instructions. If local staff does not have appropriate skills for steps below, this maintenance task should be contracted out.
Have approved type fire extinguishers readily available. Do not allow open flames or smoking in

area. Use safety-type fuel cans only. Failure to comply may result in personal injury or death, and/or damage to equipment/building."

Rationale: Admonition missing and needed for employee safety.

Deleted Section heading "2.4.1 Checkpoints," kept related steps under Section 2.4.

Rationale: Formatting. Heading unnecessary since there is no 2.4.2.

Added Step 4" Inspect engine air cleaner; replace if dirty."

Rationale Critical component of equipment was missing.

Section 2.5 GUIDE NUMBER ELEC-5: ELECTRICAL PANEL INFRARED SCANS

Replaced special instructions with "WARNING To minimize arc-flash risk, do not remove dead front cover. Failure to comply may result in personal injury or death, and/or damage to equipment."

Rationale: Admonition missing and needed for employee safety.

Added Step 3 "Close circuit breaker access door."

Rationale: Step to restore panels/heads/covers was missing.

Section 3.1, GUIDE NUMBER MISC-1: AIR COMPRESSORS

Added, "NOTE Obtain and review manufacturer instructions."

Rationale: Admonition missing and needed for employee safety.

Added footnote to Step 3 "Tank to be inspected and tested by qualified inspector***."

Footnote: "***All inspectors must hold a current certificate of competency issued by the National Board of Boiler and Pressure Vessel Inspectors."

Rationale: To clarify qualified inspector requirements per ASME.

Added Step 15 "Restore covers/panels."

Rationale: Step to restore panels/heads/covers was missing.

Section 3.2 GUIDE NUMBER MISC-2: LAWNMOWERS AND EDGERS

Added, "WARNING The mower/edger blade is very sharp. Do not put hands or feet near or under rotating parts. Keep clear of the discharge opening at all times. Failure to comply may result in serious injury."

Added "NOTE Obtain and review manufacturer instructions."

Replaced special instructions with, "NOTE Maintenance should be scheduled once a season. Routine daily lubrication should be performed by operator."

Rationale: Admonitions missing. Needed for employee safety and clarity.

Added Step 6 "Restore covers/panels."

Rationale: Step to restore panels/heads/covers was missing.

3.3 GUIDE NUMBER MISC-3: SWEEPERS (GASOLINE)

Added, “NOTE Obtain and review manufacturer maintenance recommendations. Daily lubrication should be performed by operator.”

Rationale: Admonition missing. Needed for employee safety and clarity.

Added Step 9 “Restore covers/panels.”

Rationale: Step to restore panels/heads/covers was missing.

3.4 GUIDE NUMBER MISC-4: PAPER BALERS

Added, “WARNING “Before performing the following task, power down and lock out the equipment as prescribed by the local energy control procedures developed in accordance with the current local ECP providing lockout/restore procedures. Failure to comply may result in personal injury or death, and/or damage to equipment.”

Rationale: Admonition missing and needed for employee safety.

Added Step 7 “Restore covers/panels.”

Rationale: Step to restore panels/heads/covers was missing.

Deleted Section 3.5. GUIDE NUMBER MISC-5: DOORS, POWER OPERATED

Replaced with two separate headings, Section 3.5 GUIDE NUMBER MISC-5.1: DOCK DOORS, POWER OPERATED

And, Section 3.6 GUIDE NUMBER MISC-5.2: DOCK DOORS, MANUALLY OPERATED

Replaced special instructions with “NOTE Obtain and review manufacturer instructions.”

Rationale: Refined previous guide heading for clarity. It did not fully identify the type of door addressed in the checklist.

Rationale: Admonition missing and needed for employee safety.

Section 3.7 Clarified title, “GUIDE NUMBER MISC-6: DOOR, PEDESTRIAN DOORS, POWER OPERATED MAIN AND DOCK ENTRANCES”, was DOOR, POWER-OPERATED MAIN ENTRANCE AND DOCK

Rationale: The previous GUIDE HEADING did not fully identify the type of door addressed in the checklist.

Section 3.8 GUIDE NUMBER MISC-7: DOOR, PEDESTRIAN DOORS, NON-POWERED MAIN AND DOCK ENTRANCE

Rationale: The previous guide heading did not fully identify the type of door addressed in the checklist. This information was inserted for clarity and to prevent possible confusion.

Section 3.9 GUIDE NUMBER MISC-8: DOCK LEVELERS, POWERED

Added three admonitions, “WARNING According to the current Maintenance Management Order bulletin for Dock Levelers, Safety Lockout, and Maintenance Procedures, the dock leveler must be securely held in its raised position by two separate forms of approved bracing or support (not the leveler’s own springs) that cannot be moved or forced out of position. Failure to comply with this bulletin while servicing, repairing, or maintaining dock levelers may result in serious injury or death.”

“WARNING Energized equipment may expose personnel to potential hazards. Before performing the following procedure, power down and lockout the equipment and set up barricades as prescribed by the local lockout/restore procedures developed in accordance with the current local ECP providing lockout/restore procedures. Failure to comply may cause injury or death.”

“NOTE Obtain and review manufacturer instructions.”

Rationale: Admonitions missing and needed for employee safety.

Section 3.9.1 Hydraulic Units

Added, “WARNING Eye protection (goggles or face shield) must be worn when bleeding hydraulic lines. Failure to comply may result in personal injury.”

Rationale: Admonition missing and needed for employee safety.

Section 3.10 GUIDE NUMBER MISC-9: FIRE DOORS - STAIRWELLS AND EXITWAYS (SWINGING)

Added “NOTE Fire Door Definition: A fire door is a door with a fire-resistance rating (sometimes referred to as a fire protection rating for closures) used as part of a passive fire protection system to reduce the spread of fire and smoke between separate compartments of a structure and to enable safe egress from a building or structure or ship.
A fire door is a door used to reduce the spread of fire and smoke between separate compartments of a structure and to enable safe egress from a building (examples are entrances to stairwells and exit ways, and in the travel path of a corridor) they will have panic hardware.
An access door is installed in openings of fire rated walls/ceilings to provide access to the spaces they protect (examples are doors to offices, pipe shafts, ceiling crawl spaces. etc.).
*Access doors are not required to perform this checklist.”

Rationale: Admonition with fire door definition added to provide clarity for the user.

Section 3.12 GUIDE NUMBER MISC-11: STATIONARY PACKERS, Frequency: Weekly

Added three admonitions, “WARNING Before performing the following task, power down and lock out the equipment as prescribed by the local energy control procedures developed in accordance with the current local ECP providing lockout/restore procedures. Failure to comply may result in personal injury or death, and/or damage to equipment.

“WARNING Do not enter the compactor charge box, including the space above the charge box behind the dumper cradle, or receiver box, or enter the charge box through the enclosure or by climbing over or under the dumper unit. This is a permit required confined space. Failure to comply may result in death.”

"NOTE Obtain and review manufacturer instructions."

Rationale: Admonitions missing and needed for employee safety.

Changed Step 9 From "Ensure" to "Clear."

Rationale: To clarify the action needed.

Added Step 11 "Close access panels."

Rationale: Step to restore panels/heads/covers was missing.

Section 3.13 GUIDE NUMBER MISC-12: STATIONARY PACKERS, Frequency: Monthly

Added three admonitions, "WARNING Before performing the following task, power down and lock out the equipment as prescribed by the local energy control procedures developed in accordance with the current local ECP providing lockout/restore procedures. Failure to comply may result in personal injury or death, and/or damage to equipment."

"WARNING Do not enter the compactor enclosure, compactor charge box, the space above the charge box behind the dumper cradle, or receiver box. Do not climb over or under the dumper unit. This is a permit required confined space."

"NOTE Obtain and review manufacturer instructions."

Rationale: Admonition missing and needed for employee safety.

Added Step 4 "Restore covers/panels."

Rationale: Step to restore panels/heads/covers was missing.

Section 3.14 GUIDE NUMBER MISC-13: STATIONARY PACKERS, Frequency: Quarterly

Added four admonitions, "WARNING Before performing the following task, power down and lock out the equipment as prescribed by the local energy control procedures developed in accordance with the current local ECP providing lockout/restore procedures. Failure to comply may result in personal injury or death, and/or damage to equipment."

"WARNING Do not enter the compactor charge box, including the space above the charge box behind the dumper cradle, or receiver box, through the enclosure or by climbing over or under the dumper unit. This is a permit required confined space. Failure to comply may cause injury or death."

"WARNING Eye protection (goggles or face shield) must be worn when bleeding hydraulic lines. Failure to comply may result in personal injury."

"NOTE Obtain and review manufacturer instructions."

Rationale: Admonitions missing and needed for employee safety.

Added Step 4 "Restore covers/panels."

Rationale: Step to restore panels/heads/covers was missing.

Section 3.15 GUIDE NUMBER MISC-14: POWER LIFTS

Replaced "(Vert-A-Lift, etc. or other lift devices used in building maintenance" with (Elevating

Work Platforms, Vert-A-Lift, JLG, or other lift devices used in building maintenance)

Rationale: Clarified device types/names used at Postal facilities.

Added five admonitions, “WARNING To prevent tip over, never maneuver the lift while it is elevated or with a person, tools, and materials on platform. Failure to comply may result in injury or death.”

“WARNING Before performing the following task, power down and lock out the equipment as prescribed by the local energy control procedures developed in accordance with the current local ECP providing lockout/restore procedures. Failure to comply may result in personal injury or death, and/or damage to equipment.”

“WARNING Eye protection (goggles and face shield), rubber gloves, apron, and rubber boots must be worn while servicing batteries. Failure to comply may result in injury or death.”

“WARNING Battery acid is a corrosive solution. Do not allow eyes, skin, clothing or painted surfaces to come in direct contact with the battery fluid. If the fluid should come in contact with anything, immediately flush the contacted area with water.”

“NOTE Daily battery charging, cleaning, and minor maintenance is performed by personnel using the lift.”

Rationale: Admonitions missing and needed for employee safety.

Added new step 2. “Verify that all equipment hazard decals are in place (crushing, falling, tip-over, electrocution).”

Added new step 3. “Verify that operator’s manual is legible, complete, and stored in storage container on equipment.”

Rationale: New steps necessary for employee safety. Added by Safety.

Added Step 8 “Restore covers/panels.”

Rationale: Step to restore panels/heads/covers was missing.

Section 3.17 GUIDE NUMBER MISC-16: DOCK LEVELERS, MANUAL

Added three admonitions, “WARNING According to the current Maintenance Management Order bulletin for Dock Levelers, Safety Lockout, and Maintenance Procedures, the dock leveler must be securely held in its raised position by two separate forms of approved bracing or support (neither of which are the leveler’s own springs) that cannot be moved or forced out of position. Failure to comply with the bulletin while servicing, repairing, or maintaining dock levelers may result in serious injury or death.”

“WARNING Energized equipment may expose personnel to potential hazards. Before performing the following procedure, power down and lockout the equipment and set up barricades as prescribed by the local lockout/restore procedures developed in accordance with the current local ECP providing lockout/restore procedures. Failure to comply may cause injury or death.”

“NOTE Obtain and review manufacturer instructions.”

Rationale: Admonitions missing and needed for employee safety.

Section 3.18 GUIDE NUMBER MISC-17: SWEEPERS, ELECTRIC (BATTERY)

Added three admonitions, “WARNING Eye protection (goggles and face shield), rubber gloves, apron, and rubber boots must be worn while servicing batteries. Failure to comply may result in injury or death.”

“WARNING Battery acid is a corrosive solution. Do not allow eyes, skin, clothing or painted surfaces to come in direct contact with the battery fluid. If the fluid should come in contact with anything, immediately flush the contacted area with water.”

“WARNING Eye protection (goggles or face shield) must be worn when bleeding hydraulic lines. Failure to comply may result in personal injury.”

Rationale: Admonitions missing and needed for employee safety.

Added Step 9 “Restore covers, if necessary.”

Rationale: Step to restore panels/heads/covers was missing.

Section 3.19 GUIDE NUMBER MISC-18: FLOOR SCRUBBER, AUTOMATIC

Added three admonitions, “WARNING Eye protection (goggles and face shield), rubber gloves, apron, and rubber boots must be worn while servicing batteries. Failure to comply may result in injury or death.”

“WARNING Battery acid is corrosive. Do not allow eyes, skin, clothing or painted surfaces to come in direct contact with the battery fluid. If the fluid touches anything, immediately flush the contacted area with water.”

“NOTE The daily charging of the batteries shall be performed by the operator.”

Rationale: Admonitions missing and needed for employee safety.

Added Step 5 “Restore cover/panel, if necessary.

Rationale: Step to restore panels/heads/covers was missing.

Section 3.19 GUIDE NUMBER MISC-18: FLOOR SCRUBBER, AUTOMATIC

Added three admonitions, WARNING Eye protection (goggles and face shield), rubber gloves, apron, and rubber boots must be worn while servicing batteries. Failure to comply may result in injury or death.”

“WARNING Battery acid is a corrosive solution. Do not allow eyes, skin, clothing or painted surfaces to come in direct contact with the battery fluid. If the fluid touches anything, immediately flush the contacted area with water.”

“NOTE The daily charging of the batteries shall be performed by the operator.”

Rationale: Admonition missing and needed for employee safety.

Section 3.20 GUIDE NUMBER MISC-19: LEAD ACID PIV BATTERY

Added four admonitions, “WARNING Eye protection (goggles and face shield), rubber gloves, apron, and rubber boots must be worn while servicing batteries. Failure to comply may result in injury or death.”

“WARNING Battery acid is a corrosive solution. Do not allow eyes, skin, clothing or painted surfaces to come in direct contact with the battery fluid. If the fluid touches anything, immediately flush the contacted area with water.”

“CAUTION Clean batteries within the controlled confines of a battery charging room with proper ventilation and drainage in an acid neutralization pit at least once every six months.”

“NOTE Do not remove vent caps during battery charging or washing.”

Rationale: Admonitions missing and needed for employee safety.

Added Step 2 “Disconnect battery cables from motor by grasping the battery power connector, or connector handle, and separating from motor power connector. Do not pull on battery cables.”

Rationale: To provide safe method of removing cables for employee safety.

Step 4, added ...”and inspected. If caps show any signs of physical damage, or if in doubt, replace with a new cap (eBUY Plus part number UP1093 VENT CAP BAYONNET 312460).”

Rationale: Inspection and purchase information added in response to recent incidents of missing PIV battery vent caps.

Added Step 7 “Replace battery in vehicle.”

Rationale: Completes the intended action of the checklist.

Section 4.1 GUIDE NUMBER PLUM-1: FIRE EXTINGUISHER, PORTABLE, STORED-PRESSURE

Replaced special instructions with “NOTE This maintenance is a thorough examination for deficiencies requiring replacement. Fire extinguishers needing repair are to be replaced. Extinguishers removed from service must be immediately replaced with one of suitable extinguishing capabilities.

The monthly inspection must be performed at the same time as this annual maintenance is performed. Unless otherwise indicated, this guide is applicable to stored-pressure type extinguishers, with or without pressure gauge, regardless of the extinguishing agent used, e.g., multipurpose dry chemical, etc. Review MS-56 for additional information on fire extinguishing equipment.”

Rationale: Admonition missing and needed for employee safety.

Section 4.6 GUIDE NUMBER PLUM-6: STEAM TRAPS, ALL TYPES

Replaced special instructions with, “CAUTION Ensure all safety requirements are followed.”

Rationale: Admonition missing and needed for employee safety.

Section 4.8.1 Roofing System

Added two admonitions, “WARNING Verify with your supervisor that roof access is permitted before attempting to gain access to the roof.

Employees who access a walking-working surface with unprotected sides or edges that are 4 feet or more above a lower level must have one of the following to protect the employee: guardrail systems; safety net systems; or personal fall protection systems, such as personal fall arrest, travel restraint, or positioning systems. Employee must contact a supervisor if this Personal Protective Equipment (PPE) is not available."

"WARNING Comply with all safety rules for working on rooftop. Check all tools and equipment for safe condition (ladders, rope safety lines, etc.). Review EL-801, Supervisor's Safety Handbook. Failure to comply may result in injury or death."

Rationale: Admonitions missing and needed for employee safety.

Changed narrative paragraph to steps.

1. Clean all trash and debris from drains.
2. Check each drain for missing, broken or corroded covers, proper drainage, tightness, gravel stop, etc.
3. Carefully inspect roof mat around each drain.

Rationale: Broken into steps to clarify inspection process.

Section 4.11 GUIDE NUMBER PLUM-11: FIRE PUMPS, ELECTRIC MOTOR DRIVE

Replaced special instructions with three admonitions, "WARNING Before performing the following task, power down and lock out the equipment as prescribed by the local energy control procedures developed in accordance with the current local ECP providing lockout/restore procedures. Failure to comply may result in personal injury or death, and/or damage to equipment."

"CAUTION Give special attention to notifying all required officials that the fire pump will be out of service. Notice shall include estimated period of downtime and other special problems that may develop. If these work procedures can cause activation of an alarm and/or supervisory signal, the control center or fire department must be notified prior to starting work."

"NOTE Review manufacturer instructions."

Rationale: Admonitions missing and needed for employee safety.

Section 4.12 GUIDE NUMBER PLUM-12: FIRE PUMPS, INTERNAL COMBUSTION ENGINE DRIVE

Replaced special instructions with two admonitions, "WARNING Have approved fire extinguisher available. Do not allow flames or smoking in area. Use safety fuel cans only. Failure to comply may cause injury, death or building damage."

"CAUTION Give special attention to notifying all required officials that the fire pump will be out of service. Notice shall include estimated period of downtime and other special problems that may develop. If these work procedures can cause activation of an alarm and/or supervisory signal, the control center and the fire department must be notified prior to starting work."

Rationale: Admonitions missing and needed for employee safety.

Added Steps 7 and 8 to Sections 4.12.1 and 4.12.2

Step 7 "Secure pump and leave in ready-to-run condition."

Step 8 “Notify proper officials that the unit is back in service.”

Rationale: To provide notification to officials that the emergency systems are back in service.

Attachment 3

Updated Figures 3-1, with new screenshot of PS Form 4893

Rationale: Form 4893 has been updated in Custodial Work Loading software to include NFPA required Sprinkler workhour calculation.

Updated Figures 3-3, with new screenshot of PS Form 4894.

Rationale: Form 4894 has been updated in Custodial Work Loading software to include NFPA required “Control Valve” workhour calculations.

Updated Figures 3-8 to 3-11, with new screenshots of PS Form 4896A

Rationale: Form 4896A has been updated in Custodial Work Loading software.

Thomas Rabicki
Executive Manager
Maintenance Policy, Programs, and Support
HQ Maintenance Operations

8403 LEE HIGHWAY
MERRIFIELD, VA 22082-8101
TEL: (703) 280-7021
FAX: (651) 456-5960

MAINTENANCE TECHNICAL SUPPORT CENTER
HEADQUARTERS MAINTENANCE OPERAT
UNITED STATES POSTAL SERVICE

Maintenance Management er

SUBJECT: Guidelines for Creating Detailed Local Building and Building Equipment Maintenance Preventive Maintenance Checklists

DATE:

TO: All Maintenance Sites

PUB NO: MMO-057-21
FILE CODE: M
FILE ID: mm21056
REV LEVEL: ah

This Maintenance Management Order (MMO) **supersedes MMO-007-20** and provides local maintenance managers with guidelines to develop detailed Building and Building Equipment Maintenance Preventive Maintenance (PM) checklists. Attachment 1 provides a table listing equipment and corresponding PM guidelines. Attachment 2 provides the PM guides. Attachment 3 provides sample USPS building equipment annual staffing workhour requirement forms. This bulletin applies to Acronym ADMIN, Class Code AA.

The PM requirements and tasks in Attachment 2 provide the minimum required PM and frequencies that should be modified as necessary based on manufacturer's requirements, local conditions, usage, or local ordinances. Manufacturer recommendations may be considered with justification as they relate to Occupational Safety and Health Administration (OSHA), federal, state, and local regulations. Ensure all required OSHA safety requirements including but not limited to Personal Protective Equipment (PPE), Electrical Work Program (EWP), local Energy Control Procedures (ECP), and Safety Data Sheet (SDS) are added to the locally developed PM checklists.

The development of a facility Building and Building Equipment Maintenance (BEM) Plan depends on a complete and accurate inventory. All building equipment that is to be maintained must be identified and listed in the site staffing software application. Failure to accurately inventory the facility equipment may result in inadequate support resources. The site staffing projection for building equipment maintenance is derived and calculated within the staffing software application and is based on the building equipment inventory, maintenance standards, and frequencies. Each inventory item in the staffing software application earns an annual work hour allowance, which should not be exceeded without proper documentation and justification.

Station/Branch and Associate Office building equipment entered into the staffing software application does not count toward building equipment maintenance staffing hours because those facilities are maintained by Field Maintenance and associated staffing hours are calculated in a separate section of the staffing software application.

Other equipment or building systems supported by contract or other means, must be

listed, but designated as “maintained by contract”.

Route scheduling within eMARS should be coordinated to allow inspection of numerous smaller simplistic components at the same time to minimize travel within the facility. For example: Perform the inspections of steam traps, chilled water valves, other miscellaneous Heating, Ventilation, and Air Conditioning (HVAC) valves and air handler units at the same time when feasible.

For questions or comments concerning this bulletin, contact HQ Maintenance Operations at ~~HQMaintenanceOperations@usps.gov~~ HQMaintenanceOperations@usps.gov.

Field Code Changed

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Thomas Rabicki
Executive Manager
Maintenance Policy, Programs, and Support
HQ Maintenance Operations

Attachments:
1. Equipment Inventory Reference Table
2. Building and Building Equipment Preventive Maintenance Guides
3. USPS Building Equipment Annual Staffing Workhour Requirement Forms

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ATTACHMENT 1

EQUIPMENT INVENTORY REFERENCE TABLE

1.0 EQUIPMENT INVENTORY TABLE

Table 1-1. Equipment Inventory Reference Table

Line	Item	eMARS Equip. Description	eMARS Acronym	Class Code	PM Guide No(s)
1	AGV	AGV Seegrid Pallet Jack	AGV	SP	MMO*
2	AGV	AGV Seegrid Tow Motor	AGV	ST	MMO*
3	AGV	AGV Seegrid Server System	AGV	SZ	MMO*
4	AGV	AGV Daifuku Pallet Jack	AGV	UP	MMO*
5	AGV	AGV Daifuku Tow Motor	AGV	UT	MMO*
6	AGV	AGV Daifuku Server System	AGV	UZ	NONE**
7	AGV	Automated Guided Vehicles Mission Assignment Sys	AGVM	AA	NONE**
8	Air Curtain	Air Curtain	~~DOOR~~FAN	AC	NONE**
9	Air Compressors	Compressed Air HVAC	AIR (1)	~~AB~~BA	MISC-1
10	Air Compressors	Compressed Air Mechanization/Automation	AIR	AA	MISC-1
11	Air Compressors	Compressed Air Other	AIR	ZZ	MISC-1
12	Air-Conditioning Machine Package Unit <10 Tons	Rooftop Or Package Cooling Only	HVACPKG	AA	HVAC-1, HVAC-15
13	Air-Conditioning Machine Package Unit >10 Tons And <=30 Tons	Rooftop Or Package Cooling Only	HVACPKG	AA	HVAC-1, HVAC-15
14	Air-Conditioning, Window Units	AC Window Units	HVACPKG	BB	HVAC-2, HVAC-15
15	Air Dryer	Compressed Air Dryer	AIR	CA	NONE**

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Line	Item	eMARS Equip. Description	eMARS Acronym	Class Code	PM Guide No(s)
16	Air Handling Unit-Other <=10hp	Air Handling Unit-Other <=10hp	AHU	EA	HVAC-4, HVAC-13, HVAC-15
17	Air Handling Unit-Other >10hp	Air Handling Unit-Other >10hp	AHU	EB	HVAC-4, HVAC-13, HVAC-16
18	Boilers, Cast Iron And Steel	Boiler Low Press, Hot Water, Gas Fired	BOILER	AA	HVAC-6,
19	Boilers, Cast Iron And Steel	Boiler Low Press, Hot Water, Oil Fired	BOILER	BA	HVAC-5, HVAC-6,
20	Boilers, Cast Iron And Steel	Boiler Low Press, Hot Water, Elect Fire	BOILER	CA	HVAC-6,
21	Boilers, Cast Iron And Steel	Boiler High Press, Hot Water, Gas Fired	BOILER	DA	HVAC-6,
22	Boilers, Cast Iron And Steel	Boiler High Press, Hot Water, Oil Fired	BOILER	EA	HVAC-5, HVAC-6,
23	Boilers, Cast Iron And Steel	Boiler High Press, Hot Water, Elect	BOILER	FA	HVAC-6,
24	Boilers, Cast Iron And Steel	Boiler Low Press, Steam, Gas Fired	BOILER	GA	HVAC-6,
25	Boilers, Cast Iron And Steel	Boiler Low Press, Steam, Oil Fired	BOILER	HA	HVAC-5, HVAC-6,
26	Boilers, Cast Iron And Steel	Boiler Low Press, Steam, Elect Fired	BOILER	IA	HVAC-6,
27	Boilers, Cast Iron And Steel	Boiler High Press, Steam, Gas Fired	BOILER	JA	HVAC-6,
28	Boilers, Cast Iron And Steel	Boiler High Press, Steam, Oil Fired	BOILER	KA	HVAC-5, HVAC-6,
29	Boilers, Cast Iron And Steel	Boiler High Press, Steam, Elect Fired	BOILER	LA	HVAC-6,
30	Burner, Gas	Burner Boiler (Gas)	BURNER	AG	HVAC-7
31	Burner, Oil	Burner Boiler (Oil)	BURNER	AO	HVAC-8
32	Coils, Preheat, Reheat, Etc. (At Remote Locations)	Coils Preheat Reheat Etc. (Remote Locations)	HVACO	~~RH~~CA	HVAC-9
33	Compactor PTR	Compactor PTR	COMPACT	BA	MMO*
34	Condensers, Air Cooled	Air Cooled Condensers <10 Tons	COOL	HA	HVAC-3, ELEC-1
35	Condensers, Air Cooled	Air Cooled Condensers >10 Tons And <=30 Tons	COOL	HB	HVAC-3, ELEC-1

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Line	Item	eMARS Equip. Description	eMARS Acronym	Class Code	PM Guide No(s)
36	Condensers, Air Cooled	Air Cooled Condensers >30 Tons	COOL	HC	HVAC-3, ELEC-1
37	Condensers, Evaporative	Condenser, Evaporative	COOL	GA	PLUM-7, ELEC-1
38	Cooling Towers	Cooling Equipment Cooling Towers	COOL	FA	HVAC-11.1, HVAC-11.2, HVAC-12, ELEC-1
39	Docks- All Related Equipment	Docks- All Related Equipment	DOCKS	AA	NONE**
40	Dock Levelers, Manual	Dock Loading Ramp Adjustable (Manual)	DOCKS	AB	MISC-16
41	Dock Levelers, Powered	Dock Levelers - Loading Ramps (Powered)	DOCKS	AC	MISC-8
42	Dock (Powered Lift)	Dock (Powered Lift)	DOCKS	AD	NONE**
43	Dock Boards Fixed	Dock Boards Fixed	DOCKS	AE	NONE**
44	Dock Lights (Trailer)	Dock Lights (Trailer)	DOCKS	AF	NONE**
45	Dock Scissor Lift	Dock Scissor Lift	DOCKS	AI	NONE**
46	Doors, Pedestrian, Main Entrance And Dock Entrance, (Power Operated)	Doors Main Entrance Power Operated	DOOR	~~AB~~AP	MISC-6
47	Doors, Pedestrian, Main Entrance And Dock Entrance, (Power Operated)	Turnstile Power Operated	DOOR	AT	MISC-6
48	Doors, Pedestrian, Main Entrance And Dock Entrance (Non-Powered)	Doors Main Entrance (Non-Powered)	DOOR	~~ME~~AM	MISC-7
49	Doors, Dock, Powered Operated	Dock Door (Trailer Loading And Unloading)	DOCKS	~~AG~~AP	MISC-5-1
50	Doors, Dock Manually Operated	Dock Door (Trailer Loading And Unloading)	DOCKS	~~AG~~AM	MISC 5.2
51	Door High Speed	Door High Speed	DOOR	HS	NONE**
52	Drinking Water Coolers	Drinking Water Coolers	PLUMB	DW	PLUM-13

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Line	Item	eMARS Equip. Description	eMARS Acronym	Class Code	PM Guide No(s)
53	Dust Collection System	Dust Collection System	DUST	AA	NONE**
54	Elevator Electric, Automatic	Elevator Electric, Automatic	EL	AA	NONE**
55	Elevator Electric, Manual	Elevator Electric, Manual	EL	BA	NONE**
56	Elevator Hydraulic, Automatic	Elevator Hydraulic, Automatic	EL	CA	NONE**
57	Elevator Hydraulic, Manual	Elevator Hydraulic, Manual	EL	DA	NONE**
58	Elevator Escalator	Elevator Escalator	EL	EA	NONE**
59	Electrical Power Supply 15KV And Above	Electrical Power Supply 15KV And Above	ELEC	PA	NONE**
60	Electrical Power Supply Below 7 KV	Electrical Power Supply Below 7 KV	ELEC	PB	NONE**
61	Electrical Panel Control	Electrical Panel Control	ELEC	PC	NONE**
62	Electrical Panel Distribution	Electrical Panel Distribution	ELEC	PD	ELEC-5
63	Electrical Power Supply 7 - 14 KV	Electrical Power Supply 7 - 14 KV	ELEC	PS	NONE**
64	Emergency Systems Emergency Lighting	Emergency Systems Emergency Lighting	EMSYS	EL	NONE**
65	Emergency Shower	Emergency Showers	EMSYS	ES	EMSYS MMO, PLUM-15
66	Eyewash, Plumbed	Emergency Systems Eyewash	EMSYS	~~EW~~PW	EMSYS MMO, PLUM-14
67	Eyewash, Self-Contained	Emergency Systems Eyewash	EMSYS	~~EW~~SW	EMSYS MMO, PS FORM 4894
68	Emergency Exit Signs	Emergency Exit Signs	EMSYS	EX	EMSYS MMO, PS FORM 4894
69	Emergency Systems Fire Alarm	Emergency Systems Fire Alarm	EMSYS	FA	EMSYS MMO
70	Fans, Centrifugal (Exhaust Or Return Air)	Fan Centrifugal	FAN	FC	HVAC-12
71	Fans, Propeller, Pedestal Or Wall-Mounted	Fan Propeller	FAN	FP	HVAC-16

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Line	Item	eMARS Equip. Description	eMARS Acronym	Class Code	PM Guide No(s)
72	Fans Propeller >=24 Inches	Fans Propeller >=24 Inches	FAN	FQ	NONE**, 4894
73	Filters, Roll Type, Disposable Media	Filters Roll Type Disposable Media	FILTER	FR	HVAC-13
74	Controls And Mechanisms For Roll-Type Filters	Controls And Mechanisms For Roll-Type Filters	~~FILTER~~HVACINS	~~FC~~CA	HVAC-14
75	Filters, Throw Away	Filters Throw Away	FILTER	FT	HVAC-15
76	Fire Dampers (In Duct)	Fire Damper All	EMSYS	FD	HVAC-24
77	Fire Doors - Sliding Type	Fire Doors - Sliding Type	DOOR	FD	MISC-10
78	Fire Doors - Swinging Type, Stairwells And Exit Ways	Fire Door Stairwells And Exitways (Swinging)	DOOR	~~FC~~FS	MISC-9
79	Fire Extinguisher	Emergency Systems Fire Extinguishing	EMSYS	FE	EMSYS MMO, PLUM-1
80	Fire Pumps, Electric Motor Drive	Fire Pump, Electric Motor Drive	PLUMB	FE	PLUM-11, EMS-8
81	Fire Pumps, Internal Combustion Engine Drive	Fire Pump, Internal Combustion Engine Drive	PLUMB	FG	PLUM-12, EMS-8
82	Furnace Forced Air Gas Fired	Furnace Forced Air Gas Fired	FURNACE	AA	MS-24
83	Furnace Forced Air Oil Fired	Furnace Forced Air Oil Fired	FURNACE	BA	NONE**
84	Furnace Forced Air Elect Fired	Furnace Forced Air Elect Fired	FURNACE	CA	NONE**
85	Furnace Forced Air Gas Split System	Furnace Forced Air Gas Split System	FURNACE	DA	NONE**
86	Furnace Forced Air Oil Split System	Furnace Forced Air Oil Split System	FURNACE	EA	NONE**
87	Furnace Forced Air Elect Split System	Furnace Forced Air Elect Split System	FURNACE	FA	NONE**
88	Fusible Link Smoke Vents (Roof)	Fusible Link Smoke Vents (Roof)	BLDG	SV	NONE**
89	Generators, Emergency, Gasoline Or Natural Gas Engines	Fixed Mount Permanent Generator	GEN	BA	ELEC-2, ELEC-4, EMS-5
90	Generators, Emergency, Fixed Diesel	Generator Diesel (Fixed)	GEN	BB	ELEC-3, ELEC-4, EMS-5

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Line	Item	eMARS Equip. Description	eMARS Acronym	Class Code	PM Guide No(s)
91	Generators, Contingency	Portable Generator Less Than And Including 15KW	GEN	AA	MMO*
92	Generators, Contingency	Portable Generator Greater Than 15KW	GEN	AB	MMO*
93	Generators, Contingency	Generator Other (Portable)	GEN	AC	MMO*
94	Grease Traps	Grease Traps	PLUMB	GT	MMO*
95	Ground Fault Circuit Interrupter (GFCI)	Ground Fault Circuit Interrupter (GFCI) Electrical Receptacle	ELEC	GF	EMSYS MMO, PS FORM 4894
96	Building Automation System (BAS)	GMS Building Automation System	GMS	BA	NONE**
97	Heaters, Baseboard, Electric	Heater Electric Baseboard - 706	HVACO	~~BB~~EA	HVAC-21
98	Heaters, In Duct, Electric	Heater Electric In Duct	HVACO	DA	HVAC-20
99	Heaters, Unit, Gas-Fired	Heater	HVACO	AA	HVAC-23
100	Heaters, Unit, Steam Or Hot Water	Heater	HVACO	AA	HVAC-22
101	Heating Only, Package Unit	Rooftop Heating Only, Gas Fired	HVACPKG	BA	NONE**
102	Heating Only, Package Unit	Rooftop Heating Only, Oil Fired	HVACPKG	CA	NONE**
103	Heating Only, Package Unit	Rooftop Heating Only, Elect Fired	HVACPKG	DA	NONE**
104	Heating/Cooling Units, Package Unit	Rooftop Or Package Heating Cooling, Gas Fired	HVACPKG	EA	HVAC-17
105	Heating/Cooling Units, Package Unit	Rooftop Or Package Heating Cooling, Oil Fired	HVACPKG	FA	HVAC-17
106	Heating/Cooling Units, Package Unit	Rooftop Or Package Heating Cooling, Elect Fired	HVACPKG	GA	PLUM-9, ELEC-1, PLUM-7
107	Heat Pump	Heat Pump Air Source - No Backup	HTPUMP	AA	NONE**
108	Heat Pump	Heat Pump Air Source - Gas Backup	HTPUMP	AB	NONE**
109	Heat Pump	Heat Pump Air Source - Oil Backup	HTPUMP	AC	NONE**
110	Heat Pump	Heat Pump Air	HTPUMP	AD	NONE**

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Line	Item	eMARS Equip. Description	eMARS Acronym	Class Code	PM Guide No(s)
		Source - Elec Backup			
111	Heat Pump	Heat Pump Gnd Source Clsed Loop No Bkup	HTPUMP	BA	NONE**
112	Heat Pump	Heat Pump Gnd Source Clsed Loop Gas Bku	HTPUMP	BB	NONE**
113	Heat Pump	Heat Pump Gnd Source Clsed Loop Oil Bku	HTPUMP	BC	NONE**
114	Heat Pump	Heat Pump Gnd So. Closed Loop Elec Bkup	HTPUMP	BD	NONE**
115	Heat Pump	Heat Pump Gnd Source Aquifer No Bkup	HTPUMP	CA	NONE**
116	Heat Pump	Heat Pump Gnd Source Aquifer Gas Bkup	HTPUMP	CB	NONE**
117	Heat Pump	Heat Pump Gnd Source Aquifer Oil Bkup	HTPUMP	CC	NONE**
118	Heat Pump	Heat Pump Gnd Source Aquifer Elec Bkup	HTPUMP	CD	NONE**
119	Hoist	Trolley Mounted Hoist	HOIST	AA	MMO*
120	Hoist	Mobile Boom Style Hoist	HOIST	BA	MMO*
121	Hoist	Other Manual Hoist	HOIST	DA	MMO*
122	Hot Water Heaters, Converters (Industrial)	Hot Water Heater Converters Industrial	PLUMB	~~BA~~AA	PLUM-9, ELEC-1, PLUM-7
123	Hot Water Heaters Commercial Type	Hot Water Heaters Commercial Type	PLUMB	WC	PLUM-10, ELEC-1, PLUM-7
124	Hot Water Heaters, Domestic Type	Hot Water Heater (Domestic) - Electric	PLUMB	~~WE~~WC	PLUM-10, ELEC-1, PLUM-7
125	Hot Water Heaters, Domestic Type (Gas Or Oil Fired)	Hot Water Heater (Domestic) - Oil Gas	PLUMB	WG	PLUM-10, ELEC-1, PLUM-7

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Line	Item	eMARS Equip. Description	eMARS Acronym	Class Code	PM Guide No(s)
126	Humidifier	Humidification System	HUMID	AA	NONE**
127	Dehumidifier	Dehumidifier	HUMID	BA	NONE**
128	Lawnmowers And Edgers (Gasoline Powered)	Bldg, Outside Equipment	BLDG	BA	MISC-2
129	Lead Acid PIV Battery	Battery	BATTERY	AA	MISC-19
130	Magnetic Locking System	Magnetic Locking System	DOOR	ML	NONE**
131	MOPE	Mobile Op Eq, Forklift, Ride Or Walk, Motorized	MOPE	AA	MMO*
132	MOPE	Toyota Forklift Model 5	MOPE	AB	MMO*
133	MOPE	Toyota Forklift Model 6	MOPE	AC	MMO*
134	MOPE	Toyota Forklift Model 7	MOPE	AD	MMO*
135	MOPE	Toyota Forklift Model 8	MOPE	AE	MMO*
136	MOPE	Clark Forklift (All Models)	MOPE	AL	MMO*
137	MOPE	Crown Forklift (All Models)	MOPE	AM	MMO*
138	MOPE	Hyster Forklift (All Models)	MOPE	AN	MMO*
139	MOPE	Yale Forklift (All Models)	MOPE	AO	MMO*
140	MOPE	Mobile Op Eq Tow Tractor Tugger Power Ox	MOPE	BA	MMO*
141	MOPE	Toyota Tow Tractor (All DC Models)	MOPE	BB	MMO*
142	MOPE	Toyota Tow Tractor (All AC Models)	MOPE	BC	MMO*
143	MOPE	Taylor Dunn (All Models)	MOPE	BD	MMO*
144	MOPE	Mobile Op Eq Pallet Truck Motorized - Non Motorized	MOPE	CA	MMO*
145	MOPE	Toyota Riding Pallet Truck (All Models)	MOPE	CB	MMO*

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Line	Item	eMARS Equip. Description	eMARS Acronym	Class Code	PM Guide No(s)
146	MOPE	Toyota Walking Pallet Truck (All Models)	MOPE	CC	MMO*
147	MOPE	Crown Pallet Truck (All Models)	MOPE	CD	MMO*
148	MOPE	Mobile Op Eq-Other	MOPE	DA	MMO*
149	MOPE	Mobile Op Eq-Mini Lift FSS Only	MOPE	EA	MMO*
150	Motors, Over 5hp	Motor Electric Over 5 HP	ELEC	MT	ELEC-1
151	Paper Baler	Baler	BALER	AA	MISC-4
152	PIVMS	PIVMS	PIVMS	AA	MMO*
153	Pump, Centrifugal	Pumps, Centrifugal (Not Integral With Motor)	PLUMB	PC	PLUM-7, ELEC-1
154	Pump Chiller Water	Pump Chiller Water	PLUMB	PC	NONE**, PLUM-7, ELEC-1
155	Pump Condenser Water	Pump Condenser Water	PLUMB~~PU MP~~	~~AB~~PC	NONE**, PLUM-7, ELEC-1
156	Pump Hot Water	Pump Hot Water	PLUMB~~PU MP~~	~~HW~~PC	NONE**, PLUM-7, ELEC-1
157	Pumps, Sump (~~Sewage Or~~ Life)	Pump, Sump (Sewage Or Life)	PLUMB	PS	PLUM-2
158	Pumps, Condensate Or Vacuum	Pump, Condensate Or Vacuum	PLUMB	PV	HVAC-10
159	Pump Sewer Ejector	Pump Sewer Ejector	PLUMB	~~SE~~PS	NONE**
160	UPV	Unfired Pres Vessel All Types - Models	UPV	AA	NONE**
161	Refrigeration Machines (Absorption Type)	Absorption Unit Cooling Only	HVACABS	AA	HVAC-18, ELEC-1, PLUM-7
162	Refrigeration Machine (Centrifugal And Reciprocating)	Water In Evap-Water Cool Condenser	COOL	AA	HVAC-19, ELEC-1, PLUM-7

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Line	Item	eMARS Equip. Description	eMARS Acronym	Class Code	PM Guide No(s)
163	Roof, Inspection: Roof work should only include periodic visual inspection. Any required roof repairs must to be considered under and coordinated through the national roof contract. Note: (All roof types included)	Roofing Built-Up Roof Drains Etc.	ROOF	AA	PLUM-8
164	Floor Scrubbers, Automatic, Vacuum, Battery Operated	Floor Scrubber	MOPE	FS	MISC-18
165	Snow Blower - Walking Type	Snow Blower - Walking	MOPE	SB	MISC-15
166	Split System (Condenser)	Split System Condenser Unit	COOL	SA	HVAC-27
167	Split System (Evaporator)	Split System Evaporator Unit	COOL	SB	HVAC-25 , HVAC-26
168	Split System (Evaporator)	Split System Evaporator Unit With Electric Heat	COOL	SE	HVAC-25 , HVAC-26
169	Split System (Evaporator)	Split System Evaporator Unit With Gas Heat	COOL	SG	HVAC-25 , HVAC-26
170	Split System (Evaporator)	Split System Evaporator Unit With Oil Heat	COOL	SO	HVAC-25 , HVAC-26
171	Split System (Evaporator And Condenser)	Split System Evaporator Unit With Other Heat	COOL	SZ	HVAC-25 , HVAC-26
172	Sprinkler Head (Sprinkled Areas)	Fire Suppression System	EMSYS	FS	EMSYS MMO
~~172~~173	Stationary Packers	Compactor	COMPACT	AA	MISC-11, MISC-12, MISC-13
~~173~~174	Sweepers Electric (Battery)	Sweeper Electric	MOPE	SE	MISC-17
~~174~~175	Sweepers (Gasoline Powered)	Sweeper Gas	MOPE	SG	MISC-3
~~175~~176	Tanks	Storage Tank Diesel Fuel	TANKS	CA	NONE**

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Line	Item	eMARS Equip. Description	eMARS Acronym	Class Code	PM Guide No(s)
~~176~~177	Tanks	Storage Tank Waste Fuel	TANKS	DA	NONE**
~~177~~178	Tanks	Storage Tank Waste Solvent	TANKS	KA	NONE**
~~178~~179	Tanks	Storage Tank Engine Oil	TANKS	JA	NONE**
~~179~~180	Tanks	Storage Tank Other	TANKS	NA	NONE**
~~180~~181	Trailer Restraints	Trailer Restraint	DOCKS	AH	MISC-20, MISC-21
~~181~~182	Transformer	Transformer	ELEC	TR	NONE**
~~182~~183	Transformer Switch	Transformer Switch	ELEC	TS	NONE**
~~183~~184	Transformer Vault	Transformer Vault	ELEC	TV	NONE**
~~184~~185	Traps, Steam (All Types)	Steam Trap, All Types	BOILER	ST	PLUM-6
~~185~~186	Valves, Manually Operated (Mainline Or Critical - Over 2 In)	Valve, Manually Operated Mainline Or Critical Over 2-in.	PLUMB	VC	PLUM-4
187	Valve, Fire Control	Fire Suppression System	EMSYS	FS	EMSYS MMO
~~186~~188	Valves, Motor Operated	Valve, Motor Operated	PLUMB	VM	PLUM-5
~~187~~189	Valves, Regulating (Steam)	Valve, Regulating (Steam)	PLUMB	VR	PLUM-3
~~188~~190	VFD	Variable Frequency Drive	ELEC	VF	NONE**
~~189~~191	VAV	Variable Air Volume Unit	HVACVAV	AA	NONE**

*MMO: refer to appropriate MMO for task.

**NONE: no guides apply.

1. Include Unfired Pressure Vessel (UPV), if applicable.
2. Use acronym for equipment or system on which this item is installed.

When creating an Equipment Record in the eMARS Equipment Module, the Site will generate one record for each piece or type of equipment depending on the specific equipment.

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ATTACHMENT 2

BUILDING AND BUILDING EQUIPMENT

PREVENTIVE MAINTENANCE GUIDES

1.0 GUIDE SET HVAC

1.1 GUIDE NUMBER HVAC-1: AIR-CONDITIONING MACHINE PACKAGE UNITS

Frequency: Annual

WARNING

Energized equipment may expose personnel to potential hazards. Before performing the following procedure, power down and lockout the equipment as prescribed by the local lockout/restore procedures developed in accordance with the current local ECP providing lockout/restore procedures. Failure to comply may cause injury or death.

1. Remove panels. Clean entire unit.
2. Clean drip pans and drains. Check for corrosion.
3. Replace worn belts and adjust proper tension.
4. Lubricate motor(s) and fan(s) bearings.
5. Check motor alignment and verify hardware is tight.
6. Change filters with USPS approved products.
7. Operate unit and check for proper cooling.
8. Check thermostat.
9. Check fan and motor. Clean fan blades, motor, and lubricate bearings.
10. Run machine and check operation, water supply and control valves, suction and discharge pressures, refrigerant level, recheck for leaks, functioning of controls, temperature of discharge, air, etc.
11. Restore panels and clean up area and machine.
12. Identify and report any deficiencies.

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1.2 GUIDE NUMBER HVAC-2: AIR-CONDITIONING, WINDOW UNITS

Frequency: Annual

WARNING

Energized equipment may expose personnel to potential hazards. Before performing the following procedure, power down and lockout the equipment as prescribed by the local lockout/restore procedures developed in accordance with the current local ECP providing lockout/restore procedures. Failure to comply may cause injury or death.

NOTE

Review manufacturer instructions.

1. Remove necessary covers.
2. Clean condenser, cooling coil fins, and fans where accessible.
3. Remove dirt or dust from accessible interior parts.
4. Replace or clean filter.
5. Replace covers that were removed, if necessary.
6. Clean area.
7. Start unit and observe operation.

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1.3 GUIDE NUMBER HVAC-3: AIR-COOLED CONDENSERS

Frequency: Annual

WARNING

Energized equipment may expose personnel to potential hazards. Before performing the following procedure, power down and lockout the equipment as prescribed by the local lockout/restore procedures developed in accordance with the current local ECP providing lockout/restore procedures. Failure to comply may cause injury or death.

1. Vacuum dirt on coils and fins.
2. Inspect and service unit following manufacturer recommendations.
3. Restore covers that were removed, if necessary.
4. Identify and report any deficiencies.

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1.4 GUIDE NUMBER HVAC-4: AIR HANDLERS

Frequency: Annual

WARNING

Energized equipment may expose personnel to potential hazards. Before performing the following procedure, power down and lockout the equipment as prescribed by the local lockout/restore procedures developed in accordance with the current local ECP providing lockout/restore procedures. Failure to comply may cause injury or death.

1.4.1 Fans

1. Clean and inspect fan blades.
2. Clean and inspect fan housing.
3. Restore cover, if necessary.

1.4.2 Bearings

Lubricate bearings following manufacturer recommendations. Do not over lubricate bearings.

1.4.3 Drives (Belt and Direct)

1. Inspect for excessive belt wear indicating misalignment, overloading, or improper belt tension.
2. If belts are worn, they should be replaced to prevent untimely breakdown. Multi-belt drives should be replaced in matched sets. Adjust belt tension as necessary.
3. Check couplings for alignment on direct drives and for tightness of assembly.
4. Restore covers that were removed, if necessary.

1.4.4 Coils

1. Examine coils for leakage and debris.
2. Clean coil exterior using manufacturer’s recommendations.
3. Restore cover/panel, if necessary.

1.4.5 Freeze Protection

1. Check pitch of coil to drainage point.
2. Inspect test controls and devices used for freeze protection.
3. Clean face and lubricate following manufacturer recommendation.

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1.4.6 Controls

1. Inspect and clean dampers, control linkage, and control motors following manufacturer recommendation.
2. Lubricate as necessary following manufacturer recommendation.
3. Restore covers/panels, if necessary.

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1.5 GUIDE NUMBER HVAC-5: BOILERS, OIL FIRED

(Cleaning Fireside only)

Frequency: Annual

Application: This is to provide for fireside cleaning to remove soot and maintain high efficiency.

WARNING

Energized equipment may expose personnel to potential hazards. Before performing the following procedure, allow boiler to cool, lock out power to oil pumps and blowers, and close and lock out valves. Power down and lockout the equipment as prescribed by the local lockout/restore procedures developed in accordance with the current local ECP providing lockout/restore procedures. Failure to comply may cause injury or death.

1. Clean soot from chamber, tubes, and all heat transfer surfaces.
2. Look for signs of overheating, leakage, wear, abrasion, corrosion of pressure parts, or erosion of metal.
3. Clean or replace burner nozzle as necessary.
4. Restore cover/panel.
5. When unit is returned to service, check and adjust burner for optimum combustion efficiency.
6. Identify and report any deficiencies.

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1.6 GUIDE NUMBER HVAC-6: BOILERS, CAST-IRON AND STEEL

Frequency: Annual

WARNING

Energized equipment may expose personnel to potential hazards. Before performing the following procedure, allow boiler to cool, lock out power to oil pumps and blowers, and close and lock out valves. Power down and lockout the equipment as prescribed by the local lockout/restore procedures developed in accordance with the current local ECP providing lockout/restore procedures. Failure to comply may cause injury or death.

1.6.1 General

1. Remove boiler from service. Take proper safety precautions before working inside boiler, including tagging of valves and controls, and letting boiler cool down.
2. Remove fly ash and soot from flue passages.
3. Restore cover/panel.
4. Check firesides, valves, and trim, and report any leaks.

1.6.2 Watersides

1. Clean gauge glass and siphon loops to limit controls.
2. See that petcocks and try cocks open freely.
3. If internal inspection is required:
   a. Remove hand-hole and manhole plates.
   b. Clean interior of boiler, wash down shell and drums to remove mud, loose scale, and deposits.
   c. Turbine tubes: check tube ends for leakage and corrosion.
   d. Restore covers/panels.
   e. Identify and report any deficiencies.

1.6.3 Exterior and Firesides

1. Examine and clean water column and feed water regulators, high and low side alarms, drains, gauge glasses, siphon loops, petcocks, and try cocks.
2. Look for signs of overheating, leakage, wear, abrasion, corrosion of pressure parts, or erosion of metal.
3. Check tubes for evidence of blisters and pock marks.
4. Check condition of all refractories for cracks, erosion, and caulk. Also, check expansion joints, baffles, dampers and actuating mechanisms, stay-bolts, etc.

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5. Test all non-return and stop valves. Clean and replace as necessary.
6. Check fusible plugs, if used. Replace yearly.
7. Check and clean bonnets, flues, and uptakes for defective metal. Replace if necessary.
8. Check exterior structure for strains and tension.
9. Clean and lubricate forced-draft fan.
10. Check condition of door gaskets.
11. Carefully account for all tools before closing up boiler.
12. Restore covers/panels.
13. Identify and report any deficiencies.

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1.7 GUIDE NUMBER HVAC-7: BURNER, GAS

Frequency: Annual

WARNING

Activities in this guide require work to be performed with the equipment powered on and covers/panels open. Energized equipment may expose personnel to potential hazards. Follow all manufacturer recommendations. Failure to comply may result in injury or death.

Commented [EAM1]: Updated.
I kept it to our standard language instead of specifying what type of injury.

1. Check boiler room for adequate ventilation in accordance with AGA burner requirements.
2. Check operation of all gas controls and valves.
3. Check flue connections for tight joints and minimum resistance to airflow. Ensure combustion chamber, flues, breeching, and chimney are clear before firing.
4. Ensure draft regulators give slightly negative pressure in the combustion chamber at maximum input.
5. On forced-draft burners, gas manifold pressure requirements should correspond with modulating (butterfly) valve in full-open position and stable at all other firing rates.
6. Take CO^2 flue gas temperature readings to determine efficiency of the unit. CO^2 for atmospheric gas burners should be 8 to 9.5%; for forced draft burners 9 to 10%. Determine combustion efficiency according to instructions with flue gas test apparatus. Combustion efficiency should be at least 80%. If efficiency is low, check baffling.
7. Check burner for flashback and tight shutoff of fuel.
8. Restore covers/panels.
9. Check operation of controls. Clean and adjust if necessary.
10. Ensure unit operates properly when adjustments are set per manufacturer instructions.
11. Identify and report any deficiencies.

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1.8 GUIDE NUMBER HVAC-8: BURNER, OIL

Frequency: Annual

WARNING

Activities in this guide require work to be performed with the equipment powered on and covers/panels open. Energized equipment may expose personnel to potential hazards. Follow all manufacturer recommendations. Failure to comply may result in injury or death.

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1. Test and inspect burner (with or without firing) at rated pressure for leaks.
2. Timed trial for ignition for pilots and burners should be in accordance with manufacturer instructions.
3. Check operation of automatic safety controls and combustion flame safeguards for abnormal discharge of oil on ignition failure, and sensors for presence of flame.
4. Check pre-ignition purging capability of burner, combustion chamber, boiler passes, and breeching. Stack dampers should be fully open during purge and light-off period.
5. Check delivery of fuel in relation to its response to the ignition system. Examine electrodes for carbon buildup, dislocation, distortion, and burning of parts.
6. Ensure ignition transformer provides dependable arc. Adjust and regulate as required for clearance and air gap.
7. Clean and adjust draft regulator and air shutter on a natural draft burner to ensure excess air quantities are minimal for complete combustion. Test with gas analyzer.
8. On mechanical draft burners, clean and check power-driven fan blower.

WARNING

Energized equipment may expose personnel to potential hazards. Before performing the following procedure, power down and lockout the equipment as prescribed by the local lockout/restore procedures developed in accordance with the current MMO providing lockout/restore procedures. Failure to comply may cause injury or death.

~~8.~~9. Check forced-draft fan, clean fan and fan housing, check bearing, pulleys, and belts for wear and lubricate as necessary.

~~9.~~10. Check and clean filters, water separators, and primary and secondary strainers.

~~10.~~11. Clean, check operation, and adjust controls and safeties.

~~11.~~12. Burners designed to change firing rates automatically should be checked for adequate proportioning changes in fuel and air rates.

~~12.~~13. Check constant level device to see that burner maintains proper oil level (within 1/3") at rated output.

~~13.~~14. Ensure energy cannot feedback and energize ignition devices or feed valves after a control shuts off burner.

~~14.~~15. Replace nozzles and check for tight shutoff of fuel.

~~15.~~16. Check stacks for smoke or haze and adjust burner accordingly.

~~16.~~17. Take CO^2, O^2, and smoke readings. Compare CO^2 and flue gas temperature for determination of boiler burner efficiency. CO^2 should be 9 to 12%. Combustion efficiency should be at least 80%. Determine combustion efficiency according to instructions with flue gas test apparatus.

~~17.~~18. Restore covers/panels.

~~18.~~19. Identify and report any deficiencies.

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1.9 GUIDE NUMBER HVAC-9: COILS, PREHEAT, REHEAT, ETC. (REMOTE FROM AIR HANDLER)

Frequency: Annual

Application: This guide applies to coils that are not part of an air-washer or air-handling unit.

1. Vacuum the fins, coils, etc.
2. Remove obstructions to airflow.
3. Check coils. Repair or report any leaks.
4. Test and inspect controls that protect against freezing.
5. Restore covers/panels.
6. Identify and report any deficiencies.

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1.10 GUIDE NUMBER HVAC-10: CONDENSATE OR VACUUM PUMPS (ON STEAM RETURN SYSTEM)

Frequency: Annual

1. Operate unit to check for steam binding.
2. Check condensate temperature. Temperature should be approximately
3. 30 degrees F. below steam temperature if traps are not leaking.
4. Examine flanges for steam leaks.
5. Pump receiver down.
6. Turn condensate to sewer.
7. Shut down unit.
8. Clean receiver.
9. Clean and adjust motor float switch and float operation on high-low water level. Inspect pressure switches.
10. Clean and examine receiver, vent pipe, inlet, and discharge openings for excessive corrosion. Report condition.
11. Check alignment of coupling with straight edge.
12. Lubricate pump and motor.
13. Adjust packing glands and change packing when necessary.
14. Examine vacuum breaker operation.
15. Inspect ball floats, rods, and other linkage. Adjust as necessary.
16. Restore covers/panels.
17. Identify and report any deficiencies.

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1.11 GUIDE NUMBER HVAC-11.1: COOLING TOWERS STARTUP (SPRING)

Frequency: Annual

WARNING

Energized equipment may expose personnel to potential hazards. Before performing the following procedure, power down and lockout the equipment as prescribed by the local lockout/restore procedures developed in accordance with the current local ECP providing lockout/restore procedures. Failure to comply may cause injury or death.

NOTE

Perform annual maintenance before cooling season.

1. Remove trash, dirt, and algae from pans, casings, fill, and screens.
2. Check structural members of tower for deterioration.
3. Clean and check operation of the water treatment equipment.
4. Fill tower. Adjust bleed float level. Charge with water treatment chemicals.
5. Examine water nozzles for obstructions and proper water distribution.
6. Check alignment of motor to gear to fan.
7. Inspect motor, motor starter, belts, etc., for proper operation.
8. Restore all covers/panels.
9. Identify and report any deficiencies.

1.12 GUIDE NUMBER HVAC-11.2: COOLING TOWERS SHUTDOWN (FALL)

Frequency: Annual

WARNING

Energized equipment may expose personnel to potential hazards. Before performing the following procedure, power down and lockout the equipment as prescribed by the local lockout/restore procedures developed in accordance with the current local ECP providing lockout/restore procedures. Failure to comply may cause injury or death.

NOTE

Perform annual maintenance before cooling season.

1. Drain and flush down tower. Remove trash, dirt, and algae from pans, casings, fill, and screens.
2. Drain and replace lubricant in gearbox.
3. Restore covers/panels.
4. Identify and report any deficiencies.

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1.13 GUIDE NUMBER HVAC-12: FANS, CENTRIFUGAL

Frequency: Annual

WARNING

Energized equipment may expose personnel to potential hazards. Before performing the following procedure, power down and lockout the equipment as prescribed by the local lockout/restore procedures developed in accordance with the current local ECP providing lockout/restore procedures. Failure to comply may cause injury or death.

NOTE

Obtain and review manufacturer instructions.

1. Check over unit thoroughly. Look for signs of rust, corrosion, or deterioration. Inspect interior of housing, if there are openings to do so.
2. Check insulation; repair if needed.
3. Check bearings, shaft, pulley, and alignment with motor. If vibration is excessive, check balance of rotor.
4. Perform required lubrication.
5. Check belts; adjust tension, or replace as required.
6. Vacuum windings, if necessary.
7. Clean complete unit, including fan rotor.
8. Restore covers/panels.
9. Identify and report any deficiencies.

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1.14 GUIDE NUMBER HVAC-13: FILTERS, ROLL-TYPE DISPOSABLE MEDIA

Frequency: 4 times annually (quarterly)

Application: To inspect roll filter media.

WARNING

Energized equipment may expose personnel to potential hazards. Before performing the following procedure, power down and lockout the equipment as prescribed by the local lockout/restore procedures developed in accordance with the current local ECP providing lockout/restore procedures. Failure to comply may cause injury or death.

NOTE

Obtain and review manufacturer instructions.

1. Check filter media roll.
2. Replace filter media roll as needed utilizing the work order process.
3. Restore covers/panels.

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1.15 GUIDE NUMBER HVAC-14: CONTROLS AND MECHANISMS ROLL TYPE FILTERS

Frequency: Annual

WARNING

Energized equipment may expose personnel to potential hazards. Before performing the following procedure, power down and lockout the equipment as prescribed by the local lockout/restore procedures developed in accordance with the current local ECP providing lockout/restore procedures. Failure to comply may cause injury or death.

NOTE

Obtain and review manufacturer instructions.

1. Inspect framework and structure. Look for loose or missing bolts, air leaks, condition of flashing or caulking, etc.
2. Inspect all moving parts for proper alignment, freedom of motion, excessive clearance or play, etc. Clean, adjust, or tighten as necessary.
3. Inspect powered roll and take up roll for correct tracking of media. On manual operation check wheel or hand crank.
4. On motor drives, check pressure sensing device(s) and/or pressure switches. Test settings for starting and stopping motor.
5. Inspect motor, starter, controls, and selector switch for auto warning or indicator lights.
6. Check oil in gear case. Change or replenish as required. Perform required lubrication.
7. Restore covers/panels.
8. Identify and report any deficiencies.

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1.16 GUIDE NUMBER HVAC-15: FILTERS, THROW-AWAY

(Includes package units)

Frequency: 4 times annually (quarterly)

WARNING

Before performing the following task, power down and lock out the equipment as prescribed by the local energy control procedures developed in accordance with the current local ECP providing lockout/restore procedures. Failure to comply may result in personal injury or death, and/or damage to equipment.

NOTE

Change filters when the static pressure approaches the design maximum for the unit.

1. Remove and discard old filters.
2. Clean frame with vacuum.
3. Inspect frame, doors, etc.
4. Install new media.
5. Restore covers/panels.

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1.17 GUIDE NUMBER HVAC-16: FANS, PROPELLER

Frequency: Annual

This guide is for the large fans used in the workroom or other areas to provide air circulation. Observe current local ECP and ensure all safety requirements are followed.

WARNING

Before performing the following task, power down and lock out the equipment as prescribed by the local energy control procedures developed in accordance with the current local ECP providing lockout/restore procedures. Failure to comply may result in personal injury or death, and/or damage to equipment.

WARNING

Visually inspect portable ladders prior to each use. These visual inspections are intended to help ensure that each ladder will be safe during operation. Failure to comply may result in injury. Refer to Handbook EL-803 Maintenance Employee's Guide to Safety, Section VIII for more information and MMO-115-17 Inspection and Usage of Portable Ladders.

WARNING

These procedures may require using a ladder. Using a ladder presents a falling hazard. Never overreach or lean away from the ladder. Precautions must be taken to prevent falls from heights that may cause personal injury. Follow local safety procedures for fall prevention. Failure to comply may cause injury or death and/or equipment damage.

1. Disconnect from electric power and clean entire unit including the blade and motor.
2. Examine line cord for frayed insulation or evidence of deterioration if applicable.
3. Wrench test blade setscrew, motor mount bolts, and blade guard mounting bolts to verify tightness.
4. Lubricate unit and clean up excess lubricant.
5. Restore covers/panels.
6. Operate unit and check for excess vibration and unusual noise.

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1.18 GUIDE NUMBER HVAC-17: HEAT/COOLING UNIT, ROOF TOP

Frequency: Semiannual

This applies to roof top heating/cooling units, which are gas-fired heating, and ~~having~~ have an air-cooled condenser. Ensure all safety requirements are followed.

WARNING

Before performing the following task, power down and lock out the equipment as prescribed by the local energy control procedures developed in accordance with the current local ECP providing lockout/restore procedures. Failure to comply may result in personal injury or death, and/or damage to equipment.

WARNING

Verify with your supervisor that roof access is permitted before attempting to gain access to the roof.

Employees who access a walking-working surface with unprotected sides or edges that are 4 feet or more above a lower level must have one of the following to protect the employee: guardrail systems; safety net systems; or personal fall protection systems, such as personal fall arrest, travel restraint, or positioning systems.[1] Employee must contact a supervisor if this Personal Protective Equipment (PPE) is not available.

1. Remove panels. Clean entire unit.
2. Clean drip pans and drains.
3. Replace worn belts and adjust for proper tension.
4. Clean fans.
5. Lubricate motor(s) and fan(s) bearings.
6. Check alignment of motor and tighten.
7. Change filters.
8. Restore covers/panels.
9. Identify and report any deficiencies.

[1] OSHA 1910.28(b)(1)(i)(A-C) Unprotected sides and edges.

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1.18.1 Spring

1. Clean evaporator and condenser coils.
2. Operate unit and check refrigeration.
3. Charge unit as required.
4. Restore covers/panels.
5. Check thermostat.

1.18.2 Fall

1. Clean and check heat exchanger for leaks.
2. Check gas train and safety controls for adequate and proper operation.
3. Adjust pilot or electronic ignition device.
4. Set burner for maximum combustion efficiency.
5. Restore covers/panels.

1.19 GUIDE NUMBER HVAC-18: REFRIGERATION MACHINES, ABSORPTION TYPE

Frequency: Annual

WARNING

Energized equipment may expose personnel to potential hazards. Before performing the following procedure, power down and lockout the equipment as prescribed by the local lockout/restore procedures developed in accordance with the current local ECP providing lockout/restore procedures. Failure to comply may cause injury or death.

NOTE

Consult operating data to determine the temperature difference across the various system components as a guide to determining the condition of the evaporator and condenser tubes.

1.19.1 Evaporator Circuit

1. Check and service evaporator pump, motor controls, starters, etc. Lubricate as prescribed.
2. Clean and flush out seal, water tank seal chamber, and associated lines.
3. Check purge valve diaphragm. Replace if necessary.
4. Inspect ball in check valve.
5. Inspect and clean evaporator spray header, nozzles, etc. Replace defective units.
6. If operating data indicated the refrigerant temperature is slowly rising, test sample for the presence of solution. If excessive, follow manufacturer instructions for distilling refrigerant.
7. Restore covers/panels.

1.19.2 Solution Circuit

1. Check and service solution pump, motor controls, starters, etc. Lubricate as prescribed.
2. Check absorber and generator sight glasses. Replace if required.
3. Check purge valve diaphragm. Replace if required.
4. Inspect and clean solution spray nozzles. Replace defective units.
5. Restore covers/panels.

Commented [EAM3]: Is this one item? That's a lot of nouns. Or two - water tank & seal chamber?

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1.19.3 Condenser Circuit

1. Clean condenser water tubing in the condenser and absorber. Use nylon brush or other soft material.
2. Allow condenser water tubing to dry to determine if scale exists. Have scale chemically tested if necessary. Acid clean if necessary and flush.
3. Restore covers/panels.

1.19.4 Purge System

1. If purge system indicates the system is not tight, follow manufacturer recommendations for removing solution and for leak testing.
2. Clean purge tank, and purge with water following steps prescribed by the manufacturer.
3. Change oil, in purge pump, when it becomes contaminated or emulsified.
4. Inspect discharge valve and oil distributor rubbers; renew if necessary.
5. Restore covers/panels.

1.19.5 Controls

1. Check adjustment of pressure-control, restrictor, high-level cutout, and low temperature cutout.
2. Check all control interlocks for proper operation.
3. Check capacity control valve, linkage, and stem. Lubricate according to manufacturer instructions.
4. Restore covers/panels.
5. Identify and report any deficiencies.

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1.20 GUIDE NUMBER HVAC-19: REFRIGERATION MACHINES (CENTRIFUGAL AND RECIPROCATING)

Frequency: Annual

WARNING

Energized equipment may expose personnel to potential hazards. Before performing the following procedure, power down and lockout the equipment as prescribed by the local lockout/restore procedures developed in accordance with the current local ECP providing lockout/restore procedures. Failure to comply may cause injury or death.

1.20.1 Compressor

1. Take sample of oil and have analyzed for acid and metal content. Record the results of the analysis in the eMARS equipment record. Drain, flush, and change oil in reservoirs including filters, strainers, and traps. Do not change oil in reciprocating machines unless contaminated.
2. Clean and inspect main and auxiliary oil pumps, including packing, seals, alignment, pulleys, belts, and couplings.
3. Check speed increaser. Drain oil from gearbox. Flush and inspect gears for indication of wear, pitting, and misalignment.
4. Remove head from oil coolers; inspect and clean tubes as necessary. Change oil filters.
5. Refill oil sump.
6. Remove access caps to compressor internals, and clean where possible.
7. Clean and adjust pilot positioner for guide vanes.
8. Examine bearing for clearances and wear.
9. Clean and lubricate coupling.
10. Check hot and cold alignment between drive and driven compressor.
11. Check all relief valve rupture discs.
12. Test entire system for refrigerant leaks.
13. Calibrate and adjust all gauges and instruments. Calibrate the chilled water inlet and outlet thermometers together by placing the sensing element in a container of melting ice and water. This provides a 32 degrees Fahrenheit temperature for calibration purposes.
14. Check safety controls for setting operation; tighten electrical connections, and clean when necessary.

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15. Review manufacturer literature for further details on service required on compressor.
16. Perform maintenance on purge unit in accordance with manufacturer instructions.
17. Restore covers/panels.

1.20.2 Chiller

1. Review chiller performance records. (Inlet and outlet chilled water temperature and refrigerant temperatures).
2. If efficiency is reduced, inspect for control malfunction or sensing element failure.
3. Systems requiring minimum or no raw water make-up should be drained and inspected only in emergencies. The pH should be maintained between 7 and 8. To determine that the system is tight, disconnect automatic make-up water system and feed by hand. Frequency for cleaning on such systems should be once every five years. Note: New installations must be cleaned after one year of operation.
4. Clean tubes with nylon brush or similar material.
5. Blow tubes free of trapped water if unit is to be exposed to freezing temperatures.
6. Replace heads. Install new gaskets.
7. Treat water to control corrosion.

1.20.3 Water-Cooled Condensers

1. Review condenser performance by inlet and outlet temperatures, head pressure, and temperature of refrigerant.
2. Remove condenser heads.
3. Remove mud, debris, scale, and other sediment collected during operation.
4. Clean water boxes and tube sheets.
5. Clean tubes with nylon brush or other similar material, and inspect for signs of corrosion.
6. Blow trapped water from tubes after cleaning if unit is exposed to freezing temperature.
7. Replace heads. Install new gaskets.
8. Chemically test scale, if necessary.
9. If condenser is chemically cleaned, neutralize after cleaning.

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1.21 GUIDE NUMBER HVAC-20: HEATER, ELECTRIC, IN-DUCT

Frequency: Annual

1. Vacuum all dust and dirt from coils.
2. Remove airflow obstruction.
3. Visually inspect for cracked or broken insulators, distorted or burned coils, and loose connections. Replace as needed.
4. Inspect operating contacts and replace if needed.
5. Restore covers/panels.

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1.22 GUIDE NUMBER HVAC-21: HEATER, ELECTRIC, BASEBOARD

Frequency: Annual

WARNING

Before performing the following task, power down and lock out the equipment as prescribed by the local energy control procedures developed in accordance with the current local ECP providing lockout/restore procedures. Failure to comply may result in personal injury or death, and/or damage to equipment.

1. Remove cover; vacuum coil, fins, and cover grill.
2. Replace cover.

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1.23 GUIDE NUMBER HVAC-22: UNIT HEATERS (STEAM AND HOT WATER)

Frequency: Annual

~~WARNING~~

~~Before performing the following task, power down and lock out the equipment as prescribed by the local energy control procedures developed in accordance with the current local ECP providing lockout/restore procedures. Failure to comply may result in personal injury or death, and/or damage to equipment.~~

1. Clean strainer ahead of valve. Check valve head and seats for wear and cutting.
2. Replace valve(s) as necessary.
3. Steam quality should be examined for foreign matter if valves are being damaged.
4. Examine pilot lines for dirt.
5. Check steam gauges.
6. Check safety or pressure relief valve for relieving and seating.
7. Check diaphragms for failure.
8. Check binding of valve stem.
9. Clean and adjust heater deflector fins and element.

WARNING

Before performing the following task, power down and lock out the equipment as prescribed by the local energy control procedures developed in accordance with the current local ECP providing lockout/restore procedures. Failure to comply may result in personal injury or death, and/or damage to equipment.

~~9.~~10. Clean fan and lubricate motor.

~~10.~~11. Adjust weighted lever or spring-control tension.

~~11.~~12. Restore covers/panels.

~~12.~~13. Identify and report any deficiencies.

1.24 GUIDE NUMBER HVAC-23: UNIT HEATERS (GAS FIRED)

Frequency: Annual

WARNING

Before performing the following task, power down and lock out the equipment as prescribed by the local energy control procedures developed in accordance with the current local ECP providing lockout/restore procedures. Failure to comply may result in personal injury or death, and/or damage to equipment.

NOTE

For infrared units, obtain and follow manufacturer recommendations.

1. Clean and adjust heater deflector fins and element.
2. Clean fan and lubricate motor.
3. Clean burner, chamber, thermo-couple, and control.
4. Adjust pilot or electric ignition device.
5. Inspect vent and damper operation.
6. Restore covers/panels.
7. Remove lockout from unit.
8. Operate unit and adjust burner.
9. Check operation of safety pilot, gas shutoff valve, and other burner safety devices.
10. Identify and report any deficiencies.

1.25 GUIDE NUMBER HVAC-24: FIRE DAMPERS (IN-DUCT)

Frequency: Annual

WARNING

~~Before performing the following task, power down and lock out the equipment as prescribed by the local energy control procedures developed in accordance with the current local ECP providing lockout/restore procedures. Failure to comply may result in personal injury or death, and/or damage to equipment.~~

CAUTION

Never replace fusible link with wire. On first inspection, make sure that the damper is not installed backwards. In all cases, the air movement should tend to close damper.

1. Determine that the access door is reasonably airtight and latches properly.
2. If damper is closed, check for ruptured fusible links, broken attachment, or hinge damage, corrosion, etc.
3. Remove fusible link and check for proper rating.
4. Determine that damper is self-closing and properly latches. Adjust if necessary.
5. Lubricate friction points, and exercise damper to ensure complete freedom of movement.
6. Each year, install new fusible links of proper rating and tensile strength in areas of vibration.
7. Reinstall fusible link (locations where vibration is not a problem).
8. Close access door and check for wind noise.

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1.26 GUIDE NUMBER HVAC-25: SPLIT SYSTEM EVAPORATOR UNITS

Frequency: Annual

WARNING

Before performing the following task, power down and lock out the equipment as prescribed by the local energy control procedures developed in accordance with the current local ECP providing lockout/restore procedures. Failure to comply may result in personal injury or death, and/or damage to equipment.

1. Remove panels. Clean entire unit.
2. Clean drip pans and drains. Check for corrosion.
3. Replace worn belts and adjust proper tension.
4. Lubricate motor(s) and fan(s) bearings.
5. Check motor alignment and verify hardware is tight.
6. Change filters with USPS approved products.
7. Check filter switch (if equipped)
8. Operate unit and check for proper cooling.
9. Check thermostat.
10. Check fan and motor. Clean fan blades, motor, and lubricate bearings.
11. Run machine and check operation, water supply and control valves, suction and discharge pressures, need for refrigerant, recheck for leaks, functioning of controls, temperature of discharge, air, etc.
12. Check glycol pump for leaks and operation.
13. Check reheat (if equipped)
14. Check unit electrical connections.
15. Restore panels and clean up area and machine.
16. Identify and report any deficiencies.

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1.27 GUIDE NUMBER HVAC-26: SPLIT SYSTEM EVAPORATOR UNITS

Frequency: Monthly

WARNING

Before performing the following task, power down and lock out the equipment as prescribed by the local energy control procedures developed in accordance with the current local ECP providing lockout/restore procedures. Failure to comply may result in personal injury or death, and/or damage to equipment.

1. Remove panels if necessary to access filters.
2. Change filters with USPS approved products
3. Check fan blades for free and easy movement.
4. Check for oil leaks.
5. Restore covers/panels.
6. Operate unit and check for proper cooling.
7. Identify and report any deficiencies.

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2.0 GUIDE SET ELEC

2.1 GUIDE NUMBER ELEC-1: MOTORS

Frequency: Annual

WARNING

Before performing the following task, power down and lock out the equipment as prescribed by the local energy control procedures developed in accordance with the current local ECP providing lockout/restore procedures. Failure to comply may result in personal injury or death, and/or damage to equipment.

NOTE

This guide is for squirrel-cage, wound-rotor, and synchronous motors in excess of 5-horse power. The maintenance specified by this guide is not intended to require disassembly of the motor.

NOTE

Obtain and review manufacturer instructions.

1. Clean motor with a clean rag or vacuum.
2. Perform lubrication according to manufacturer instructions.
3. Inspect for moisture and protection from water.
4. Check motor mountings, supports, and couplings for tightness or defects.
5. Identify and report any deficiencies.

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2.2 GUIDE NUMBER ELEC-2: BACK-UP GENERATOR- GAS OR NATURAL GAS ENGINES

Frequency: Annual

WARNING

This task applies to fixed generators only. Review manufacturer instructions. If local staff does not have appropriate skills for steps below, this maintenance task should be contracted out.

Have approved type fire extinguishers readily available. Do not allow open flames or smoking in area. Use safety-type fuel cans only. Failure to comply may result in personal injury or death, and/or damage to equipment/building.

1. Set distributor point dwell. Replace points, capacitor, rotor, and spark plugs after 100 hours of operation.
2. Set timing and distributor advance. Timing should be set at both idle and operating speed of generator.
3. Adjust carburetor and governor for proper operating speed.
4. Check fuel supply. Replace fuel within the manufacturer recommendations.
5. Change engine oil and filter, and perform other lubrication of engine and generator.
6. Inspect cooling system for leaks, air obstructions, V belt tension, and proper antifreeze solution. Make needed adjustments.
7. Inspect generator winding and clean if needed.
8. Clean commutator and collector rings; check brush wear and tension in accordance with manufacturer instructions.
9. Inspect generator heaters.
10. Restore covers/panels.
11. Identify and report any deficiencies.

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2.3 GUIDE NUMBER ELEC-3: EMERGENCY GENERATORS - DIESEL POWER

Frequency: Annual

WARNING

This task applies to fixed generators only. Review manufacturer instructions. If local staff does not have appropriate skills for steps below, this maintenance task should be contracted out.

Have approved type fire extinguishers readily available. Do not allow open flames or smoking in area. Use safety-type fuel cans only. Failure to comply may result in personal injury or death, and/or damage to equipment/building.

1. Change fuel filters.
2. Inspect and adjust rack on unit injector or fuel distributor pump according to manufacturer instructions.
3. Check governor. Adjust for correct speed.
4. Determine fuel level, drain water from tank, and inspect for contamination. Prior arrangements should be made for local procurement of fuel in emergencies.
5. Change engine oil and filter, and perform other lubrication on engine and generator.
6. Inspect cooling system for leaks, air obstructions, V belt tension, and proper antifreeze solution. Make needed adjustments.
7. Inspect generator winding, and clean if needed.
8. Clean commutator and collector rings. Check brush wear and tension in accordance with manufacturer instructions.
9. Inspect generator heaters.
10. Restore covers/panels.
11. Identify and report any deficiencies.

2.4 GUIDE NUMBER ELEC-4: EMERGENCY GENERATORS – ALL TYPES OF ENGINES

Frequency: Monthly

Application: This guide provides for the operation test of emergency generators.

WARNING

This task applies to fixed generators only. Obtain and review manufacturer instructions and specifications. If local staff does not have appropriate skills for steps below, this maintenance task should be contracted.

Have approved type fire extinguishers readily available. Do not allow open flames or smoking in area. Use safety-type fuel cans only. Failure to comply may result in personal injury or death, and/or damage to equipment/building.

1. Drain condensate from bottom of fuel tank and check fuel for quantity and contamination.
2. Check engine oil level
3. Check coolant level and inspect for leaks.
4. Inspect engine air cleaner; replace if dirty.
5. Test and determine specific gravity of starting batteries. Clean terminals. Set proper charge rate after generator has been operated.
6. Examine generator for moisture and/or dirt.
7. Start and operate under full load for 1 hour. It is important that the unit be operated under load. If a portion of the building load cannot be connected, a resistance load should be used.
8. While the unit is operating, thoroughly observe operation for indication of defects or possible malfunctions.
9. After unit has operated for 50 minutes, log the operation to show at least the following information: engine and generator speed in RPM, operating voltage, operating amperes, engine temperature, engine oil pressure, and hour meter readings.
10. After unit has been operated, check lubricant and coolant according to manufacturer's instruction to assure it will be ready to operate in an emergency.
11. Report any needed repairs or observed defects.

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2.5 GUIDE NUMBER ELEC-5: ELECTRICAL PANEL INFRARED SCANS

Frequency: Annual

Application: This guide provides for quick cursory scans of facility electrical panels operating up to 480 volts.

WARNING

To minimize arc-flash risk, do not remove dead front cover. Failure to comply may result in personal injury or death, and/or damage to equipment.

1. Open circuit breaker access door.
2. A qualified employee should use a thermographic camera to scan and record exterior image of circuit breakers and breaker box.
3. Close circuit breaker access door.
4. Record any observed anomalies.
5. Generate work orders as needed.

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3.0 GUIDE SET MISC

3.1 GUIDE NUMBER MISC-1: AIR COMPRESSORS

Frequency: Annual

NOTE

Obtain and review manufacturer instructions.

1. Test the pressure gauge(s) and cutout and cut-in pressure. Use test gauge to test accuracy of gauge on machine. Gauge should be within 10%.
2. Check safety valve.
3. Tank to be inspected and tested by qualified inspector***.
4. On two-stage compressor(s), check intermediate pressure.
5. Listen for knocks~~,~~ and inspect for mechanical failures.
6. Test compression; correct or repair as necessary.
7. On water-cooled compressor(s) check for corrosion.
8. Clean moisture traps in system. Check operation of timed-moisture-release system, if so equipped.
9. Change oil in crankcase.
10. Check controls, belts, pulleys, alignment, etc.
11. Check air-cooled heat exchanger.
12. Check motor, bearings, starting switches, controller, pressure switches, etc.
13. Clean equipment.
14. Comply with lubrication schedule.
15. Restore covers/panels.
16. Identify and report any deficiencies.

*** All inspectors must hold a current certificate of competency issued by the National Board of Boiler and Pressure Vessel Inspectors (NBBI).

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3.2 GUIDE NUMBER MISC-2: LAWNMOWERS AND EDGERS

Frequency: Semiannual

Application: Gasoline-powered, hand-operated, rotary mowers, and edgers.

WARNING

The mower/edger blade is very sharp. Do not put hands or feet near or under rotating parts. Keep clear of the discharge opening at all times. Failure to comply may result in serious injury.

NOTE

Obtain and review manufacturer instructions.

NOTE

Maintenance should be scheduled once a season. Routine daily lubrication should be performed by operator.

1. Change engine oil. Oil should be changed, and gasoline drained at end of season prior to storing the unit for winter.
2. Service air and fuel filters.
3. Sharpen or replace cutting blade.
4. Clean and gap or replace spark plug.
5. Inspect unit, clean debris from cooling air passages, and make other needed adjustments.
6. Restore covers/panels.

3.3 GUIDE NUMBER MISC-3: SWEEPERS (GASOLINE)

Frequency: 2 – 6 times annually

Application: Gasoline or gas powered riding type sweepers used in driveways, parking lots, sidewalks, etc.

NOTE

Obtain and review manufacturer maintenance recommendations. Daily lubrication should be performed by operator.

1. Change oil, and change or clean filter, as appropriate, every fifty operating hours.
2. Service air and fuel filters.
3. Inspect engine, clean cooling air passages.
4. Clean and gap, or change spark plug.
5. Check oil level in gearboxes.
6. Adjust tension and/or replace V-belts.
7. Adjust brakes, brushes, and operating mechanisms as recommended by the manufacturer instructions.
8. Inspect entire unit.
9. Restore covers/panels.
10. Identify and report any deficiencies.

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3.4 GUIDE NUMBER MISC-4: PAPER BALERS

Frequency: Annual

WARNING

Before performing the following task, power down and lock out the equipment as prescribed by the local energy control procedures developed in accordance with the current local ECP providing lockout/restore procedures. Failure to comply may result in personal injury or death, and/or damage to equipment.

1. Dust or wipe clean all parts of machine.
2. Examine structural features.
3. Inspect upper and lower limit switch, etc. Clean and adjust as required.
4. Check drive unit, mechanical features, and all moving parts.
5. Perform lubrication according to manufacturer's recommendations.
6. Adjust operating mechanism.
7. Restore covers/panels.
8. Identify and report any deficiencies.

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~~**3.5 GUIDE NUMBER MISC 5: DOORS, POWER OPERATED**~~

~~Frequency: Semiannual~~

~~Application: Warehouse or large overhead doors.~~

~~NOTE~~

~~Obtain and review manufacturer instructions.~~

1. ~~Inspect general arrangement of door and mechanism, mountings, guides, wind locks, anchor bolts, counter balances, weather stripping, etc. Clean, tighten, and adjust as required.~~
2. ~~Operate with power from stop to stop and at intermediate positions. Observe performance of various components, such as brake, limit switches, motor, gearbox, etc. Clean and adjust as needed.~~
3. ~~Check operations of electric eye, treadle, or other operating devices.~~
4. ~~Check manual operation. Note brake release, motor disengagement, functioning of hand pulls, chains, sprockets, clutch, etc.~~
5. ~~Examine motor, starter, push button, etc. Vacuum if required.~~
6. ~~Inspect gearbox. Change or add oil as required.~~
7. ~~Perform required lubrication.~~
8. ~~Clean unit and mechanism thoroughly.~~
9. ~~Identify and report any deficiencies.~~

Commented [SA-TM-C4]: Should this have been deleted it is listed below as 3.5.1

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~~3.6~~3.5 GUIDE NUMBER MISC-5.1: DOCK DOORS, POWER OPERATED

Frequency: Semiannual

Application: Warehouse, large overhead and dock doors.

NOTE

Obtain and review manufacturer instructions.

1. Inspect general arrangement of door and mechanism, mountings, guides, wind locks, anchor bolts, counter-balances, weather stripping, etc. Clean, tighten, and adjust as required.
2. Operate with power from stop to stop and at intermediate positions. Observe performance of various components, such as brake, limit switches, motor, gearbox, etc. Clean and adjust as needed.
3. Check operations of electric eye, treadle, or other operating devices.
4. Check manual operation. Note brake release, motor disengagement, functioning or hand pulls, chains, sprockets, clutch, etc.
5. Examine motor, starter, push button, etc. Vacuum if required.
6. Inspect gearbox. Change or add oil as required.
7. Perform required lubrication.
8. Clean unit and mechanism thoroughly.
9. Identify and report any deficiencies.

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~~3.7~~3.6 GUIDE NUMBER MISC-5.2: DOCK DOORS, MANUALLY OPERATED

Frequency: Semiannual

Application: Warehouse, large overhead and dock doors.

NOTE

Obtain and review manufacturer instructions.

1. Inspect general arrangement of door and mechanism, mountings, guides, wind locks, anchor bolts, counter-balances, weather stripping, etc. Clean, tighten, and adjust as required.
2. Check manual operation. Functioning of hand pulls, chains/cables, spring counter balance sprockets, roller guides, etc.
3. Perform required lubrication.
4. Clean unit and mechanism thoroughly.
5. Identify and report any deficiencies.

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3.7 GUIDE NUMBER MISC-6: DOOR, PEDESTRIAN DOORS, POWER OPERATED MAIN AND DOCK ENTRANCES

Frequency: Quarterly

3.7.1 Hinged Doors

1. Check alignment of door and mechanism. Inspect mountings, hinges, mats, trim, weather stripping, etc. Replace, tighten, and adjust as required.
2. Operate with power, observing operating of actuating and safety mats, door speed, and checking functions.
3. Check manual operation.
4. Inspect power unit, add oil, and tighten hydraulic lines as required.
5. Check operation of controls.
6. Inspect door-operating unit, tighten lines, and adjust as required.
7. Clean and lubricate door pivot points.
8. Identify and report any deficiencies.

3.7.2 Revolving Doors

1. Check alignment of door and mechanism. Inspect mountings, mats, trim, weather stripping, etc. Replace, tighten, and adjust as required.
2. Operate with power, observing operating of actuating and safety mats, door speed, and checking functions.
3. Remove obstructions and clean out track.
4. Fold door. Note action and freedom of motion.
5. Inspect locking device; adjust as needed.
~~5.~~6. Identify and report any deficiencies.

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3.8 GUIDE NUMBER MISC 6: DOOR, PEDESTRIAN DOORS, POWER OPERATED MAIN AND DOCK ENTRANCES

Frequency: Quarterly

1. Check alignment of door and mechanism. Inspect mountings, hinges, mats, trim, weather stripping, etc. Replace, tighten, and adjust as required.
2. Operate with power, observing operating of actuating and safety mats, door speed, and checking functions.
3. Check manual operation.
4. Inspect power unit, add oil, and tighten hydraulic lines as required.
5. Check operation of controls.
6. Inspect door operating unit, tighten lines, and adjust as required.
7. Clean and lubricate door pivot points.
8. Identify and report any deficiencies.

3.8.1 Revolving Doors

1. Check alignment of door and mechanism. Inspect mountings, mats, trim, weather stripping, etc. Replace, tighten, and adjust as required.
2. Operate with power, observing operating of actuating and safety mats, door speed, and checking functions.
3. Remove obstructions and clean out track.
4. Fold door. Note action and freedom of motion.
5. Inspect locking device; adjust as needed.
6. Identify and report any deficiencies.

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~~3.9~~3.8 GUIDE NUMBER MISC-7: DOOR, PEDESTRIAN DOORS, NON-POWERED MAIN AND DOCK ENTRANCE

Frequency: Semiannual

Application: Entrance doors used in main entries to buildings.

~~3.9.1~~3.8.1 Hinged Doors

1. Inspect the frame and supporting structure.
2. Inspect hardware; hinges, latch keeper, lock, etc. Apply appropriate lubricant where needed; wipe off excess.
3. Inspect glass, seals, or retaining pieces. Correct any deficiencies.
4. Operate door to observe functioning of check. Adjust and service as needed.
5. Identify and report any deficiencies.

~~3.9.2~~3.8.2 Revolving Doors

1. Remove obstructions and clean out track.
2. Fold door. Note action and freedom of motion.
3. Inspect locking device; adjust as needed.
4. Clean pivot points and apply appropriate lubricant.
5. Inspect felt or rubber seals.
6. Identify and report any deficiencies.

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~~**3.10 GUIDE NUMBER MISC-6: DOOR, POWER OPERATED MAIN ENTRANCE AND DOCK**~~

~~Frequency: Quarterly~~

~~1. Check alignment of door and mechanism. Inspect mountings, hinges, mats, trim, weather stripping, etc. Replace, tighten, and adjust as required.~~

~~2. Operate with power, observing operating of actuating and safety mats, door speed, and checking functions.~~

~~3. Check manual operation.~~

~~4. Inspect power unit, add oil, and tighten hydraulic lines as required.~~

~~5. Check operation of controls.~~

~~6. Inspect door operating unit, tighten lines, and adjust as required.~~

~~7. Clean and lubricate door pivot points.~~

~~8. Identify and report any deficiencies.~~

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~~**3.11 GUIDE NUMBER MISC 7: DOORS, MAIN ENTRANCE**~~

~~Frequency: Semiannual~~

~~Application: Entrance doors used in main entries to buildings.~~

~~**3.11.1 Hinged Doors**~~

~~1. Inspect the frame and supporting structure.~~

~~2. Inspect hardware; hinges, latch keeper, lock, etc. Apply appropriate lubricant where needed; wipe off excess.~~

~~3. Inspect glass, seals, or retaining pieces. Correct any deficiencies.~~

~~4. Operate door to observe functioning of check. Adjust and service as needed.~~

~~5. Identify and report any deficiencies.~~

~~**3.11.2 Revolving Doors**~~

~~1. Remove obstructions and clean out track.~~

~~2. Fold door. Note action and freedom of motion.~~

~~3. Inspect locking device; adjust as needed.~~

~~4. Clean pivot points and apply appropriate lubricant.~~

~~5. Inspect felt or rubber seals.~~

~~6. Identify and report any deficiencies.~~

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~~3.12~~3.9 GUIDE NUMBER MISC-8: DOCK LEVELERS, POWERED

Frequency: Quarterly

WARNING

~~Per MMO-055-94~~According to the current Maintenance Management Order bulletin for Dock Levelers, Safety Lockout, and Maintenance Procedures, the dock leveler must be securely held in its raised position by two separate forms of approved bracing or support (not the leveler's own springs) that cannot be moved or forced out of position. Failure to comply with ~~MMO-055-94 guidelines while servicing, repairing,~~this bulletin while servicing, repairing, or maintaining dock levelers may result in serious injury or death.

WARNING

Energized equipment may expose personnel to potential hazards. Before performing the following procedure, power down and lockout the equipment and set up barricades as prescribed by the local lockout/restore procedures developed in accordance with the current local ECP providing lockout/restore procedures. Failure to comply may cause injury or death.

NOTE

Obtain and review manufacturer instructions.

1. Inspect structural features, framework, support members, anchor bolts, pit, platform, etc. Examine condition of bumper.
2. Remove dirt and trash from pit, and verify pit drain is open.
3. Inspect motor, controls, starter, pushbuttons, solenoids, etc. Clean, adjust, and lubricate as necessary.

~~3.12.1~~3.9.1 Hydraulic Units

WARNING

Eye protection (goggles or face shield) must be worn when bleeding hydraulic lines. Failure to comply may result in personal injury.

1. Inspect coupling, pump, control valves, piping, relief valve, and reservoir; fill pipe, cap, vents, etc. Clean adjust, and lubricate as needed.
2. Inspect cylinder, ram, packing glands, etc. Add or renew packing as required.

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3. Change oil as required.

~~3.12.2~~3.9.2 Electro-Mechanical and Air Bag Units

1. Clean and inspect air bag, coupling, reduction gear, sprockets, chain, gear trains, screw and lever, and/or other mechanical features. Look for misalignment, loose bolts, evidence of binding or wear, excessive clearance, etc. Tighten as necessary.
2. Examine lubrication devices. Service if required.
3. Test operation of ramp in all directions using a load if possible. Ensure ramp holds and does not creep when load is applied or removed. Adjust if necessary.
4. Check manual operation, power disengagement, etc.
5. Lubricate as required.
6. Identify and report any deficiencies.

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~~3.13~~3.10 GUIDE NUMBER MISC-9: FIRE DOORS - STAIRWELLS AND EXITWAYS (SWINGING)

Frequency: Quarterly*

1. Remove all hold-open devices, except approved smoke or magnetic operated releases.
2. Check hang and swing for close fit. Doors must latch on normal closing cycle and have a neat fit.
3. Remove any obstructions that retard full swing or movement of door.
4. Test operation of panic hardware.
5. Inspect door coordinates on pairs.
6. Check operation of any special devices such as smoke detectors or magnetic door releases.
7. Inspect door for damage.
8. Identify and report any deficiencies.

NOTE

Fire Door Definition: A fire door is a door with a fire-resistance rating (sometimes referred to as a fire protection rating for closures) used as part of a passive fire protection system to reduce the spread of fire and smoke between separate compartments of a structure and to enable safe egress from a building or structure or ship.

A fire door is a door used to reduce the spread of fire and smoke between separate compartments of a structure and to enable safe egress from a building (examples are entrances to stairwells and exit ways, and in the travel path of a corridor) they will have panic hardware.

An access door is installed in openings of fire rated walls/ceilings to provide access to the spaces they protect (examples are doors to offices, pipe shafts, ceiling crawl spaces. etc.).

***Access doors are not required to perform this checklist.**

~~3.14~~3.11 GUIDE NUMBER MISC-10: FIRE DOORS - SLIDING TYPE

Frequency: Quarterly

1. Clean track.
2. Lubricate all pulleys.
3. Inspect for damage, worn and binding cable or chain, and proper threading through pulleys.
4. Replace fusible links and other heat-actuated devices that have been painted. Check operation of heat-actuated devices, other than fusible links.
5. Replace damaged or stretched cables or chains. Adjust to proper length.
6. Check counterweight for proper suspension.
7. Operate door by disconnecting or lifting counterweight, or by other appropriate means.
8. Check for proper fit in binders and tight fit of wedge against stay roll. Inspect stay roll for wear.
9. Check for breaks in face covering of doors.
10. Examine metal clad doors for deterioration.
11. Inspect all hardware for damage or wear.
12. Identify and report any deficiencies.

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~~3.15~~3.12 GUIDE NUMBER MISC-11: STATIONARY PACKERS

Frequency: Weekly

WARNING

Before performing the following task, power down and lock out the equipment as prescribed by the local energy control procedures developed in accordance with the current local ECP providing lockout/restore procedures. Failure to comply may result in personal injury or death, and/or damage to equipment.

WARNING

Do not enter the compactor charge box, including the space above the charge box behind the dumper cradle, or receiver box, or enter the charge box through the enclosure or by climbing over or under the dumper unit. This is a permit required confined space. Failure to comply may result in death.

NOTE

Obtain and review manufacturer instructions.

1. Oil shaft bearing under packer with appropriate lubricant.
2. Lubricate container roller fittings in axle.
3. Oil all moving joints on container door latch with appropriate lubricant.
4. Oil all container door hinges with appropriate lubricant.
5. Oil tie rod (lock hook) with appropriate lubricant. Inspect condition of cotter pins.
6. Wipe clean and apply heavy grease along top slide.
7. Wipe clean and apply heavy grease throughout length of slide channel.
8. Inspect cotter pins, closed end of packer cylinder. Look for signs of worn or broken cotter pins.
9. ~~Ensure~~ Clear all dirt and debris ~~has been cleared~~ from under and around compaction unit carriage.
10. Check open-end packer cylinder mounting pin.
11. Close access panels.
12. Identify and report any deficiencies.

~~3.16~~3.13 GUIDE NUMBER MISC-12: STATIONARY PACKERS

Frequency: Monthly

WARNING

Before performing the following task, power down and lock out the equipment as prescribed by the local energy control procedures developed in accordance with the current local ECP providing lockout/restore procedures. Failure to comply may result in personal injury or death, and/or damage to equipment.

WARNING

Do not enter the compactor enclosure, compactor charge box, the space above the charge box behind the dumper cradle, or receiver box. Do not climb over or under the dumper unit. ~~Do not enter the compactor charge box, including the space above the charge box behind the dumper cradle, or receiver box, or enter the charge box through the enclosure or by climbing over or under the dumper unit.~~ This is a permit required confined space.

NOTE

Obtain and review manufacturer instructions.

1. Remove breather cap on oil tank. Clean breather holes and replace cap. Do not press on so tightly as to block air passage.
2. Inspect mounting hardware on side and bottom slides. Check for lost or broken cotter pins and loose belts.
3. Check and tighten mounting hardware on scraper bar.
4. Restore covers/panels.
5. Identify and report any deficiencies.

~~3.17~~3.14 GUIDE NUMBER MISC-13: STATIONARY PACKERS

Frequency: Quarterly

WARNING

Before performing the following task, power down and lock out the equipment as prescribed by the local energy control procedures developed in accordance with the current local ECP providing lockout/restore procedures. Failure to comply may result in personal injury or death, and/or damage to equipment.

WARNING

Do not enter the compactor charge box, including the space above the charge box behind the dumper cradle, or receiver box, ~~or enter the charge box~~ through the enclosure or by climbing over or under the dumper unit. This is a permit required confined space. Failure to comply may cause injury or death.

WARNING

Eye protection (goggles or face shield) must be worn when bleeding hydraulic lines. Failure to comply may result in personal injury.

NOTE

Obtain and review manufacturer instructions.

1. Check hydraulic oil for proper level and presence of contamination. Add or change oil as required.
2. Remove, clean, or replace oil filter.
3. Lubricate coupling following manufacturer specifications.
4. Restore covers/panels.
5. Identify and report any deficiencies.

~~3.18~~3.15 GUIDE NUMBER MISC-14: POWER LIFTS

(Elevating Work Platforms, Vert-A-Lift, JLG, or other lift devices used in building maintenance)

Frequency: Monthly

WARNING

To prevent tip over, never maneuver the lift while it is elevated or with a person, tools, and materials on platform. Failure to comply may result in injury or death.

WARNING

Before performing the following task, power down and lock out the equipment as prescribed by the local energy control procedures developed in accordance with the current local ECP providing lockout/restore procedures. Failure to comply may result in personal injury or death, and/or damage to equipment.

WARNING

Eye protection (goggles and face shield), rubber gloves, apron, and rubber boots must be worn while servicing batteries. Failure to comply may result in injury or death.

WARNING

Battery acid is a corrosive solution. Do not allow eyes, skin, clothing or painted surfaces to come in direct contact with the battery fluid. If the fluid should come in contact with anything, immediately flush the contacted area with water.

NOTE

Daily battery charging, cleaning, and minor maintenance is performed by personnel using the lift.

1. Visually check for needed repairs, leaks, etc.
2. Verify that all equipment hazard decals are in place (crushing, falling, tip-over, electrocution).
3. ~~1.~~ Verify that operator's manual is legible, complete, and stored in storage container on equipment.
4. ~~2.~~ Check battery water level and specific gravity.
5. ~~3.~~ Check electrical terminals. Tighten and clean as required.

Commented [EAM5]: Should include verification that all equipment hazard decals are still in place. Crushing, falling, tip-over, electrocution. And verify that operator's manual is legible, complete and stored in storage container on equipment.

4.6. Check and tighten critical structural bolts.
5.7. Lubricate in accordance with manufacturer instructions.
6.8. Restore covers/panels, if necessary.
7.9. Identify and report any deficiencies.

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~~3.19~~3.16 GUIDE NUMBER MISC-15: SNOW BLOWER, WALKING TYPE

Frequency: Annually or every 50 run hours

Application: Gasoline-powered, walk-behind type.

NOTE

Routine daily lubrication should be accomplished by the operator.

1. Change engine oil. Oil should be changed, and gasoline drained at end of season prior to storage.
2. Service fuel filters.
3. Check for rust, and apply paint or preservative as appropriate.
4. Clean and gap or replace spark plug.
5. Inspect for proper adjustment and operation.
6. Identify and report any deficiencies.

~~3.20~~3.17 GUIDE NUMBER MISC-16: DOCK LEVELERS, MANUAL

Frequency: Quarterly

WARNING

According to the current Maintenance Management Order bulletin for Dock Levelers, Safety Lockout, and Maintenance Procedures, ~~Per MMO-055-94,~~the dock leveler must be securely held in its raised position by two separate forms of approved bracing or support (neither of which are the leveler's own springs) that cannot be moved or forced out of position. Failure to ~~follow~~ comply with the bulletin~~MMO-055-94 guidelines~~ while servicing, repairing, or maintaining dock levelers may result in serious injury or death.

WARNING

Energized equipment may expose personnel to potential hazards. Before performing the following procedure, power down and lockout the equipment and set up barricades as prescribed by the local lockout/restore procedures developed in accordance with the current local ECP providing lockout/restore procedures. Failure to comply may cause injury or death.

NOTE

Obtain and review manufacturer instructions.

1. Clean trash and dirt from pit.
2. Check clevis pins for wear and presence of clevis pin retainers.
3. Check springs and cable for wear.
4. Lubricate moving parts as required.
5. Check for proper operation.
6. Identify and report any deficiencies.

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~~3.21~~3.18 GUIDE NUMBER MISC-17: SWEEPERS, ELECTRIC (BATTERY)

Frequency: 4 - 12 times per year

WARNING

Eye protection (goggles and face shield), rubber gloves, apron, and rubber boots must be worn while servicing batteries. Failure to comply may result in injury or death.

WARNING

Battery acid is corrosive. Do not allow eyes, skin, clothing or painted surfaces to come in direct contact with the battery fluid. If the fluid should come in contact with anything, immediately flush the contacted area with water.

WARNING

Eye protection (goggles or face shield) must be worn when bleeding hydraulic lines. Failure to comply may result in personal injury.

1. Check battery for correct water level. Add water if required.
2. Check battery terminals and cable clamps for corrosion and looseness.
3. Check hydraulic pump, hoses, lines, fittings, etc. for noise, leakage, and damage.
4. Check condition of tank and dust filter. Clean filter in solvent as necessary.
5. Check belts and chains for proper tension, wear, alignment, and general condition.
6. Check operational controls for proper operation.
7. Check dust skirts for proper adjustment.
8. Check hydraulic fluid and add lubricant #HY-2 as required. Replace filter as necessary.
9. Restore cover, if necessary
10. Follow manufacturer's instructions regarding preventive maintenance.

~~3.22~~3.19 GUIDE NUMBER MISC-18: FLOOR SCRUBBER, AUTOMATIC

(Battery-powered scrubber vacuum)

Frequency: 4 - 12 times per year

WARNING

Eye protection (goggles and face shield), rubber gloves, apron, and rubber boots must be worn while servicing batteries. Failure to comply may result in injury or death.

WARNING

Battery acid is a corrosive solution. Do not allow eyes, skin, clothing or painted surfaces to come in direct contact with the battery fluid. If the fluid ~~should come in contact~~touches ~~with~~ anything, immediately flush the contacted area with water.

NOTE

The daily charging of the batteries shall be ~~done~~ performed by the operator.

1. Check condition and adjustment of squeegee brushes, etc. and replace as needed.
2. Check electrical terminals. Clean and renew as needed.
3. Check the specific gravity of battery electrolyte and replace to determine that batteries are good and being properly charged.
4. Visually check machine for need of repairs, leaks, etc.
5. Restore cover/panel, if necessary.
6. Lubricate in accordance with manufacturer's instructions.

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~~3.23~~3.20 GUIDE NUMBER MISC-19: LEAD ACID PIV BATTERY

Frequency: Semiannual

WARNING

Eye protection (goggles and face shield), rubber gloves, apron, and rubber boots must be worn while servicing batteries. Failure to comply may result in injury or death.

WARNING

Battery acid is a corrosive solution. Do not allow eyes, skin, clothing or painted surfaces to come in direct contact with the battery fluid. If the fluid ~~should come in~~touches ~~contact with~~ anything, immediately flush the contacted area with water.

CAUTION

Clean batteries within the controlled confines of a battery charging room with proper ventilation and drainage in an acid neutralization pit at least once every six months.

NOTE

Do not remove vent caps during battery charging or washing.

1. Don face shield, goggles, rubber gloves, apron, and rubber boots.
2. Disconnect battery cables from motor by grasping the battery power connector, or connector handle, and separating from motor power connector. Do not pull on battery cables.
3. Remove battery from vehicle.
4. Make sure all vent caps are tight and inspected. If caps show any signs of physical damage, or if in doubt, replace with a new cap (eBUY Plus part number UP1093 VENT CAP BAYONNET 312460).
5. Wash the top of the battery with a solution of 1 pound of baking soda to 1 gallon of water. Utilize a battery washer when available.
6. Rinse with clear water and allow the battery to dry.
7. Replace battery in vehicle.

~~3.24~~3.21 GUIDE NUMBER MISC-20: TRAILER RESTRAINTS

Frequency: Quarterly

Perform periodic inspection of components for damage or excessive wear.

1. Check bumper for damage or deformation. Ensure mounting hardware is tight.
2. Check frame, welds, and motor mounts for cracks. Ensure mounting hardware is tight. Ensure concrete anchor bolts are tight and intact.
3. Check electrical boxes and panels for water penetration.
4. Restore covers/panels.
5. Ensure chain tension (if applicable) and brake torque (if applicable) is within manufacture's specifications.
6. Lubricate rollers and drive chains as needed.
7. Generate work orders for any issues needing attention.

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~~3.25~~3.22 GUIDE NUMBER MISC-21: TRAILER RESTRAINTS

Frequency: Annual

1. Verify hook arm adjustment/alignment is within manufacture's specifications.
2. Generate work orders for any issues needing attention.

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4.0 GUIDE SET PLUM

4.1 GUIDE NUMBER PLUM-1: FIRE EXTINGUISHER, PORTABLE, STORED-PRESSURE

Frequency: Annual

NOTE

This maintenance is a thorough examination for deficiencies requiring replacement. Fire extinguishers needing repair are to be replaced. Extinguishers removed from service must be immediately replaced with one of suitable extinguishing capabilities.

The monthly inspection must be performed at the same time as this annual maintenance is performed. Unless otherwise indicated, this guide is applicable to stored-pressure type extinguishers, with or without pressure gauge, regardless of the extinguishing agent used, e.g., multipurpose dry chemical, etc. Review MS-56 for additional information on fire extinguishing equipment.

1. Read Form 4705, Inspection tag and note if hydrostatic testing is required before the next annual maintenance. Report any extinguishers due for testing to maintenance supervisor or control office for replacement before due date. See MS-56 for test frequency.
2. Inspect the shell for corrosion, mechanical damage (denting or abrasion), paint condition, presence of repairs (welding, soldering, brazing, etc.), and broken hanger attachment concealing surface damage (nicks or corrosion).
3. Inspect the nameplate for illegible wording, corrosion, and loose plate. Replace labels with the new, pictographic type. See MS-56.
4. Inspect the nozzle for damage, deformation, cracks, blocked openings, damaged threads (corroded, cross-threaded, or worn), and aging (brittleness).
5. Inspect hose assembly for damaged hose (cut, cracked, worn, or plugged), damaged couplings, or swivel joint (cracked or corroded), damaged threads (corroded, cross-threaded, or worn), and inner tube cut at couplings.
6. Ensure the valve-locking device is in place and inspect for damage (bent, corroded, or binding).
7. If extinguisher has a pressure gauge, tap gauge lightly to determine if pointer is stuck or jammed. Inspect for missing pointer; missing, deformed, or broken crystal; illegible or faded dial; corrosion, dented case, and damaged crystal retainer. Read gauge. If not in operating range, remove and replace extinguisher.
8. If extinguisher is a non-gauge type, inspect for immovable or corroded pressure-indicating stem.

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9. Ensure seal or tamper indicator is not missing or broken. Replace extinguisher if seal or tamper indicator is missing or broken.
10. Complete applicable portions of Form 4705, Fire Inspection Tag.
11. Check for proper alarm and signal operation.
12. Tighten loose parts as necessary.
13. Identify and report any deficiencies.

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4.2 GUIDE NUMBER PLUM-2: SUMP PUMPS

Frequency: Annual

1. Pump out and remove pit sediment.
2. Inspect and clean strainer.
3. Flush pit and wipe pump down.
4. Repack (if required) and lubricate pumps.
5. Check bail, float, rod, and guides.
6. Inspect motor, switch, controls, etc. Clean, adjust, and lubricate as required.
7. Check pump operation. Observe operation of check valve(s).
8. Inspect piping, pipe supports, etc.
9. Clean up area.
10. Identify and report any deficiencies.

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4.3 GUIDE NUMBER PLUM-3: VALVES, REGULATING

(Steam valves at pressure reduction stations)

Frequency: Annual

Application: Single or double seated; diaphragm or spring loaded, pilot operated valves.

1. Clean strainer ahead of valve.
2. Check valve head and seats for wear or cuts.
3. Replace valve(s) as necessary.
4. Examine steam quality for foreign matter if valves are damaged.
5. Examine pilot lines for dirt.
6. Check steam gauges.
7. Check diaphragms for failures.
8. Check binding valve stem.
9. Adjust weighted lever or spring control tension.
10. Identify and report any deficiencies.

4.4 GUIDE NUMBER PLUM-4: VALVES, MANUALLY OPERATED (MAIN LINE)

Frequency: Main line: Annual; other valves over 2 inches: 5 years

Application: For valves not used on Fire Protection systems. Maintenance for valves used on fire protection systems is described under the appropriate guide for the specific item of fire protection equipment.

1. Exercise valve from one limit to the other (fully open to fully closed) to test freedom of motion. Lubricate stem and moving parts with appropriate lubricant.
2. Verify valve seats and holds properly.
3. Check packing gland, adjust, and lubricate. Repack as required.
4. For valves equipped with wheel and chain for remote operation, verify freedom of motion.
5. Identify and report any deficiencies.

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4.5 GUIDE NUMBER PLUM-5: VALVES, MOTOR OPERATED

Frequency: Annual

1. Clean unit and examine all parts.
2. Operate from limit to limit. Observe operation - look for binding, sluggishness, action of limits, etc.
3. Verify valve seats and holds properly.
4. Apply appropriate lubricant to moving parts of valve.
5. Lubricate motor and gearbox as necessary.
6. Inspect contacts, brushes, motor controls, switches, etc. Clean and adjust as necessary.
7. Identify and report any deficiencies.

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4.6 GUIDE NUMBER PLUM-6: STEAM TRAPS, ALL TYPES

Frequency: Annual (All types, low or high pressure)

Special instructions for all traps:

1. Check trap operation under steam pressure.
2. Remove and replace faulty traps or trap elements.

CAUTION

Ensure all safety requirements are followed.

4.6.1 Thermostatic Traps (Bellows or Diaphragm Type)

1. Remove cap or bonnet.
2. Clean interior of trap, valve, and seat.
3. Inspect bellows or diaphragm and note by sound whether it contains liquid charge.
4. Replace bellows or diaphragms as necessary.
5. If valve seat is cut, replace seat.

4.6.2 Float and/or Thermostatic Traps

1. Remove bonnet.
2. Inspect linkage and float operation for leakage, defective operation, or deterioration.
3. Examine, clean, and check operation of bellows as in Step 1 above.

4.6.3 Inverted Bucket Trap

1. Remove bonnet.
2. Clean interior trap.
3. Inspect valve linkage mechanism and seating of valve.
4. Examine condition of bucket.
5. Examine vent or race, inlet, and outlet for evidence of corrosion.

4.6.4 Impulse Trap

1. Remove bonnet.
2. Inspect valve disc, inlet valve, and outlet surface.
3. See that fulcrum point is free of dirt.
4. Clean body of trap.
5. Identify and report any deficiencies.

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4.7 GUIDE NUMBER PLUM-7: PUMPS, CENTRIFUGAL

Frequency: Annual

1. While pump is in operation, check performance, bearing temperature, stuffing box operation, pressure gauge, and flow indicators.
2. Shut down, lock out, and drain pump housing. Suction and discharge valves should hold.
3. Remove gland.
4. Examine shaft sleeve for wear; replace as necessary.
5. Adjust gland evenly, finger tighten.
6. On pumps with oil ring lubrication, drain oil, flush, and then fill to proper oil level with new oil.
7. Perform lubrication in accordance with manufacturer instructions.
8. Clean strainers.
9. Put pump into operation. Stop and start pump. Check undue vibration noise, pressure, and action of check valve.
10. If test is satisfactory, start pump again, and adjust to slight leakage through gland.
11. When pump reaches normal operating temperatures, check pump and drive alignment.
12. Identify and report any deficiencies.

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4.8 GUIDE NUMBER PLUM-8: ROOF, INSPECTION

Frequency: Semiannual

NOTE

Sites develop local calculations for the roof inspection and justification is required.

4.8.1 Roofing System

WARNING

Verify with your supervisor that roof access is permitted before attempting to gain access to the roof.

Employees who access a walking-working surface with unprotected sides or edges that are 4 feet or more above a lower level must have one of the following to protect the employee: guardrail systems; safety net systems; or personal fall protection systems, such as personal fall arrest, travel restraint, or positioning systems.[2] Employee must contact a supervisor if this Personal Protective Equipment (PPE) is not available.

WARNING

Comply with all safety rules for working on rooftop. Check all tools and equipment for safe condition (ladders, rope safety lines, etc.). Review EL-801, Supervisor's Safety Handbook. Failure to comply may result in injury or death.

1. Clean all trash and debris from drains.
2. Check each drain for missing, broken or corroded covers, proper drainage, tightness, gravel stop, etc.
3. Carefully inspect roof mat around each drain.

[2] OSHA 1910.28(b)(1)(i)(A-C) Unprotected sides and edges.

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4.9 GUIDE NUMBER PLUM-9: HOT WATER HEATERS (CONVERTERS)

Frequency: Annual

Application: This guide applies to converters and heat exchangers that use steam to heat water for hot water heating systems.

1. With system in operation, check for steam and water leaks (interior and exterior).
2. Drain and flush tanks (storage and expansion).
3. Remove rust and scale; note rate of corrosion.
4. Remove coil or element; clean and examine condition.
5. Clean, adjust, and calibrate as required: thermometers, aquastats, pressure reducing and relief valves and gauges, temperature relief, and steam regulating and control valves.
6. Check operation and condition of all traps.
7. Clean pump. Clean out dirt from motor, check controls, switches, and starters. Check condition of packing or seal and replace as required.
8. Identify and report any deficiencies.

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4.10 GUIDE NUMBER PLUM-10: HOT WATER HEATERS - DOMESTIC TYPE

(Gas or Oil Fired)

Frequency: Annual

Application: This applies to domestic-type hot water heaters ~~(like those in r~~residential), which can also be much larger (50 to 400 gallon tanks) and have a circulating pump.

1. Check for leaks.
2. Flush tank to remove scale and sediment.
3. Check thermostat and controls for proper setting.
4. Clean combustion chamber at fireside heat transfer surfaces.
5. Set burner for efficient operation on oil fired units. Take flue gas CO^2 reading to determine proper burner adjustment.
6. Clean and lubricate circulating pump.
7. Operate try lever on pressure-temperature relief device (valve). Water should now flow freely and stop when try lever is released. Replace valve if defective.
8. Identify and report any deficiencies.

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4.11 GUIDE NUMBER PLUM-11: FIRE PUMPS, ELECTRIC MOTOR DRIVE

Frequency: Annual

WARNING

Before performing the following task, power down and lock out the equipment as prescribed by the local energy control procedures developed in accordance with the current local ECP providing lockout/restore procedures. Failure to comply may result in personal injury or death, and/or damage to equipment.

CAUTION

Give special attention to notifying all required officials that the fire pump will be out of service. Notice shall include estimated period of downtime and other special problems that may develop. If these work procedures can cause activation of an alarm and/or supervisory signal, the control center or fire department must be notified prior to starting work.

NOTE

Review manufacturer instructions.

1. Clean motor with clean rag or vacuum.
2. Visually inspect windings for cleanliness. Check for coating of oil or grease without disassembling motor.
3. Perform lubrication according to manufacturer's recommendations.
4. Inspect for moisture and protection from water.
5. Check motor mountings, supports, and couplings for tightness or other defects.
6. Remove lockout and operate pump long enough to observe general operation. Note pressures, sound, vibration, odor, or temperatures.
7. If pump has automatic starting equipment, start it by activating the mechanism so the automatic devices are tested at the same time as the pump.
8. Secure pump and leave in ready-to-run condition.
9. Notify proper officials that unit is back in service.
10. Clean up area and return tools to proper storage.
11. Identify and report any deficiencies.

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4.12 GUIDE NUMBER PLUM-12: FIRE PUMPS, INTERNAL COMBUSTION ENGINE DRIVE

Frequency: Annual

WARNING

Have approved fire extinguisher available. Do not allow flames or smoking in area. Use safety fuel cans only. Failure to comply may cause injury, death or building damage.

CAUTION

Give special attention to notifying all required officials that the fire pump will be out of service. Notice shall include estimated period of downtime and other special problems that may develop. If these work procedures can cause activation of an alarm and/or supervisory signal, the control center and the fire department must be notified prior to starting work.

4.12.1 Gasoline or Natural Gas Engines

1. Check distributor point dwell. Replace points, capacitor, rotor, and spark plugs after 100 hours of operation.
2. Set timing and distributor advance. Check at idle and operating speed.
3. Adjust governor and carburetor for proper operation and speeds.
4. Check fuel supply. Replace fuel within the manufacturer's recommendations.
5. Change engine oil and filter, and perform other lubrication of engine and pump.
6. Inspect cooling system for cleanliness, leaks, and anti-freeze solution. Check V-belt for proper tension. Adjust as necessary.
7. Secure pump and leave in ready-to-run condition.
8. Notify proper officials that the unit is back in service.

4.12.2 Diesel Engines

1. Change fuel filters.
2. Inspect and adjust racks, injectors, or unit injectors according to manufacturer's instructions.
3. Check governor for proper speed; adjust as necessary.
4. Check fuel level, presence of water in fuel tank, or other contamination.
5. Change engine oil and filter. Perform other lubrication on engine and pump.

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6. Inspect cooling system for leaks, cleanliness, and antifreeze solution. Check V-belt for proper tension. Adjust as necessary.
7. Secure pump and leave in ready-to-run condition.
8. Notify proper officials that the unit is back in service.

4.12.3 Diesel and Gas Engines

1. Check mountings, supports, and couplings for tightness or defects.
2. Remove lockout and operate pump long enough to observe general operation. Note pressure, sound, vibration, odor, and temperatures.
3. If pump has automatic starting equipment, start it by activating the mechanism so the automatic devices are tested at the same time as the pump.
4. Secure pump and leave in ready-to-run condition.
5. Notify proper officials that the unit is back in service.
6. Clean up area and return tools to proper storage.
7. Identify and report any deficiencies.

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4.13 GUIDE NUMBER PLUM-13: DRINKING WATER COOLERS

Frequency: Annual

1. Clean coils (vacuum) and fan blades.
2. Inspect P-trap, water supply valves, connections, and bubbler valve for proper operation.
3. Check belt for tightness and wear (if applicable).
4. Lubricate motor (if applicable).
5. Inspect for and repair leaks in refrigerant lines.

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4.14 GUIDE NUMBER PLUM-14: EYEWASH

Frequency: Annual

NOTE

Use shower and eyewash flow rate test kit to avoid excessive water spillage.

4.14.1 ~~Checkpoints for~~ Plumbed Eyewash Stations~~:~~

1. Validate that controlled, low velocity flow completely rinses eyes and face, and is not injurious to user.
2. Ensure water flow is sufficiently high to allow user to hold eyes open while rinsing.
3. Ensure spray heads are protected from airborne contaminants, and covers are removed by water flow once unit is activated.
4. Ensure unit delivers at least 0.4 gallons of water per minute (GPM) for 15 minutes.
5. Confirm water flow pattern is positioned between 33” and 53” from the floor and at least 6” from the wall or nearest obstruction.
6. Confirm hands-free, stay-open valve activates in one second or less.
7. Ensure valve actuator is easy to locate and readily accessible to user.
8. Ensure unit washes both eyes simultaneously.
9. Ensure water flow covers the area indicated at no more than 8” above spray heads.

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4.15 GUIDE NUMBER PLUM-15: EMERGENCY SHOWERS

Frequency: Annual

NOTE

Use shower and eyewash flow rate test kit to avoid excessive water spillage.

4.15.1 ~~Checkpoints for~~ Plumbed Emergency Showers~~:~~

1. Ensure water supply is sufficient to provide at least 20 GPM for 0.3 hours.
2. Ensure hands-free valve activates in one second or less and remains open until manually closed.
3. Ensure shower delivers 20 gallons of water per minute for 15 minutes in the required pattern.
4. Verify height of water column is between 82” and 96” above the floor.
5. Verify center of the water pattern is at least 16” from any obstruction.
6. Verify accessible actuator is easily located and no more than 69” above floor.
7. Verify water pattern is at least 20” in diameter at 60” above the floor.
8. If provided, ensure shower enclosure has minimum diameter of 34”.

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ATTACHMENT 3

USPS BUILDING EQUIPMENT ANNUAL STAFFING

WORKHOUR REQUIREMENT FORMS

1.0 STAFFING WORKHOUR REQUIREMENT FORMS

The following forms are ~~an~~ output from the entries made in the staffing software application.

- PS Form 4893 – Annual Building Equipment Operational and Preventive Maintenance Workhour Summary (Figure 3-1~~Figure 3-1~~)
- PS Form 4893B – Annual Building Equipment Override and Supplemental Maintenance Justification (Figure 3-2~~Figure 3-2~~)
- PS Form 4894, Page 1 of 2 – Annual Standard Requirement Building Operational Maintenance (Figure 3-3~~Figure 3-3~~)
- PS Form 4894, Page 2 of 2 – Annual Standard Requirement Building Operational Maintenance (Figure 3-4~~Figure 3-4~~)
- PS Form 4895 – Annual Workhour Requirement for Central Chill Water Plant Operational Maintenance (Figure 3-5~~Figure 3-5~~)
- PS Form 4896, Page 1 of 2 – Annual Supplemental Requirement for Building Preventive and Operational Maintenance (Figure 3-6~~Figure 3-6~~)
- PS Form 4896, Page 2 of 2 – Annual Supplemental Requirement for Building Preventive and Operational Maintenance (Figure 3-7~~Figure 3-7~~)
- PS Form 4896A, Page 1 of ~~3~~ 6 – Annual Standard Requirement Building Preventive Maintenance (Figure 3-8~~Figure 3-8~~)
- PS Form 4896A, Page 2 of ~~3~~ 6 – Annual Standard Requirement Building Preventive Maintenance (Figure 3-9~~Figure 3-9~~)
- PS Form 4896A, Page 3 of ~~3~~ 6 – Annual Standard Requirement Building Preventive Maintenance (Figure 3-10~~Figure 3-10~~)
- PS Form 4896A, Page 4 of 6 – Annual Standard Requirement Building Preventive Maintenance (Figure 3-11)

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U.S. POSTAL SERVICE ANNUAL BUILDING EQUIPMENT OPERATIONAL AND PREVENTIVE MAINTENANCE WORKHOUR SUMMARY	BUILDING(s):	GROSS INTERIOR SQFT:	SPRINKLERS SQFT:	DATE: PREPARED BY:

LINE NO.	WORK DESCRIPTION	PREVENTIVE MAINTENANCE		OPERATIONAL MAINTENANCE			CORRECTIVE/MISC MAINTENANCE	TOTAL ANNUAL WORKHOURS
		4896A	4896	4894	4895	4896		
A	B	C	D	E	F	G	H	I
1	HVAC							
2	ELEC							
3	PLUM							
4	EMS							
5	MISC							
6	SUBTOTALS							
7	CORRECTIVE	*	*				**	
8	MISCELLANEOUS						†	
	TOTAL WORKHOURS							
	TOTAL FTE							

* 8% of the Subtotal
** 8 Hours per 1000 Gross Interior SQFT
† 0.1 Hours per 1000 SQFT (Sprinkler SQFT)

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Figure 3-1. PS Form 4893 – Annual Building Equipment Operational and Preventive Maintenance Workhour Summary

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U.S. POSTAL SERVICE ANNUAL BUILDING EQUIPMENT OVERRIDE AND SUPPLEMENTAL MAINTENANCE JUSTIFICATION	BUILDING(s):	DATE: PREPARED BY:

TABLE A: OPERATIONAL MAINTENANCE				
GUIDE CAT/NO	TASK DESCRIPTION	EQUIPMENT TYPE	EQUIPMENT DESCRIPTION	JUSTIFICATION
OVERRIDE TASKS				
*				
*				
*				
*				
*				
SUPPLEMENTAL TASKS				
*				
*				
*				
*				
*				

TABLE B: PREVENTIVE MAINTENANCE				
GUIDE CAT/NO	TASK DESCRIPTION	EQUIPMENT TYPE	EQUIPMENT DESCRIPTION	JUSTIFICATION
OVERRIDE TASKS				
*				
*				
*				
*				
*				
SUPPLEMENTAL TASKS				
*				
*				
*				
*				
*				

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Figure 3-2. PS Form 4893B – Annual Building Equipment Override and Supplemental Maintenance Justification

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U.S. POSTAL SERVICE ANNUAL STANDARD REQUIREMENT BUILDING OPERATIONAL MAINTENANCE		BUILDING(s):	DATE: PREPARED BY:

TABLE A: HVAC

GUIDE NO	TASK DESCRIPTION	QUANTITY	FREQUENCY	WORK HOURS (per freq)	ANNUAL TRAVEL TIME	TOTAL ANNUAL WORKHOURS
HVAC-12	FANS CENTRIFUGAL >15HP		12	0.03		
NONE	FANS PROPELLER >=24INCHES		12	0.03		
SUBTOTAL						

TABLE B: ELEC

GUIDE NO	TASK DESCRIPTION	QUANTITY	FREQUENCY	WORK HOURS (per freq)	ANNUAL TRAVEL TIME	TOTAL ANNUAL WORKHOURS
NONE	BATTERY SYSTEM, 24 VOLT		1	0.08		
NONE	BATTERY SYSTEM, 48 VOLT		1	0.16		
NONE	BATTERY SYSTEM, 120 VOLT		1	0.33		
EMS-11	GROUND FAULT CIRCUIT INTERRUPTER (GFCI)		2	0.02		
NOGUIDE1	MAIN ELECTRICAL CUBICLE/SWITCHGEAR ROOMS (>600VAC)		52	0.08		
NOGUIDE2	SWITCHBOARD ROOMS (<600VAC)		52	0.05		
NOGUIDE3	TRANSFORMER VAULTS		52	0.06		
SUBTOTAL						

TABLE C: PLUM

GUIDE NO	TASK DESCRIPTION	QUANTITY	FREQUENCY	WORK HOURS (per freq)	ANNUAL TRAVEL TIME	TOTAL ANNUAL WORKHOURS
NOGUIDE4	HYDRO-PNEUMATIC SYSTEM (INCL FIRE PROTECTION SYSTEM)			0.08		
NONE	PRESSURE REDUCING AND REGULATING STATIONS - STEAM AND WATER		1	0.02		
NONE	PUMPS >5HP, REMOTE FROM OTHER EQUIPMENT		1	0.03		
NONE	SUMP PUMP, OPERATIONAL		12	0.05		
SUBTOTAL						

TABLE D: EMS

GUIDE NO	TASK DESCRIPTION	QUANTITY	FREQUENCY	WORK HOURS (per freq)	ANNUAL TRAVEL TIME	TOTAL ANNUAL WORKHOURS
EMS-4	EMERGENCY EXIT SIGNS		12	0.02		
EMS-10	EMERGENCY EXIT SIGNS		1	0.02		
EMS-12	EMERGENCY EYEWASH, SELF-CONTAINED		12	0.02		
EMS-1	EMERGENCY EYEWASHES		52	0.10		
EMS-3	EMERGENCY LIGHTS		12	0.02		
EMS-9	EMERGENCY LIGHTS		1	0.02		
EMS-2	EMERGENCY SHOWERS		52	0.10		
EMS-14	FIRE CONTROL VALVE, LOCKED OR SUPERVISED		12	0.10		
EMS-14	FIRE CONTROL VALVE, SEALED		52	0.10		
EMS-7	FIRE EXTINGUISHER, PORTABLE, STORED-PRESSURE		12	0.02		
EMS-8	FIRE PUMPS		52	0.40		
SUBTOTAL						

Figure 3-3. PS Form 4894, Page 1 of 2 – Annual Standard Requirement Building Operational Maintenance

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TABLE E: MISC						
GUIDE NO	TASK DESCRIPTION	QUANTITY	FREQUENCY	WORK HOURS (per freq)	ANNUAL TRAVEL TIME	TOTAL ANNUAL WORKHOURS
SUBTOTAL						

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Figure 3-4. PS Form 4894, Page 2 of 2 – Annual Standard Requirement Building Operational Maintenance

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U.S. POSTAL SERVICE ANNUAL WORKHOUR REQUIREMENT FOR CENTRAL CHILL WATER PLANT OPERATIONAL MAINTENANCE	BUILDING(s):	DATE: PREPARED BY:

BUILDING				
LINE NO.	EQUIPMENT DESCRIPTION	OPERATING DAYS	WORKHOURS (per day)	ANNUAL WORKHOURS
1			0.5	
2	SUBTOTAL			
3	BUILDING CHILLER OPERATING DAYS		0.5	
	TOTAL WORKHOURS *			

* Operational Checks are limited to one hour per operating day for the first chiller.
All additional chillers are workloaded at 0.5 hours per operating day.

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Figure 3-5. PS Form 4895 – Annual Workhour Requirement for Central Chill Water Plant Operational Maintenance

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U.S. POSTAL SERVICE ANNUAL SUPPLEMENTAL REQUIREMENT FOR BUILDING PREVENTIVE AND OPERATIONAL MAINTENANCE	BUILDING(S):	DATE: PREPARED BY:

TABLE A: PREVENTIVE MAINTENANCE

GUIDE	TASK DESCRIPTION	EQUIPMENT TYPE	EQUIPMENT DESCRIPTION	FREQUENCY (per year)	WORKHOURS (per freq)	TOTAL WORKHOURS
						0
						0
						0
						0
						0
						0
						0
						0
						0
						0
						0
						0
						0
						0
						0
						0
						0
						0
						0
						0
						0
	SUBTOTAL					0

TABLE B: OPERATIONAL MAINTENANCE

GUIDE	TASK DESCRIPTION	EQUIPMENT TYPE	EQUIPMENT DESCRIPTION	FREQUENCY (per year)	WORKHOURS (per freq)	TOTAL WORKHOURS
						0
						0
						0
						0
						0
						0
						0
						0
						0
						0
						0
						0
						0
						0
						0
						0
						0

Figure 3-6. PS Form 4896, Page 1 of 2 – Annual Supplemental Requirement for Building Preventive and Operational Maintenance

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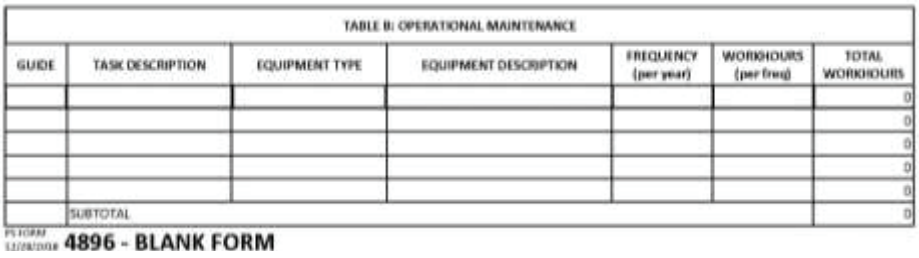

TABLE B: OPERATIONAL MAINTENANCE						
GUIDE	TASK DESCRIPTION	EQUIPMENT TYPE	EQUIPMENT DESCRIPTION	FREQUENCY (per year)	WORKHOURS (per freq)	TOTAL WORKHOURS
						0
						0
						0
						0
						0
	SUBTOTAL					0

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Figure 3-7. PS Form 4896, Page 2 of 2 – Annual Supplemental Requirement for Building Preventive and Operational Maintenance

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U.S. POSTAL SERVICE ANNUAL STANDARD REQUIREMENT BUILDING PREVENTIVE MAINTENANCE	BUILDING(s):	DATE: PREPARED BY:

TABLE A: HVAC

GUIDE NO.	TASK DESCRIPTION	QUANTITY	FREQUENCY (per year)	WORK HOURS (per freq)	TOTAL WORK HOURS
HVAC-1	AC PACKAGE UNIT <10 TONS		1	8.50	
HVAC-1	AC PACKAGE UNIT >=10 TONS		1	10.00	
HVAC-2	AIR-CONDITIONING, WINDOW UNITS		1	0.50	
HVAC-3	AIR COOLED CONDENSERS <= 10 TONS		1	0.75	
HVAC-3	AIR COOLED CONDENSERS >10 TONS and <=30 TONS		1	1.00	
HVAC-3	AIR COOLED CONDENSERS >30 TONS		1	1.75	
HVAC-4	AIR HANDLERS		1	2.50	
HVAC-4	AIR HANDLERS >10HP		1	4.50	
HVAC-5	BOILERS, OIL FIRED		1	10.00	
HVAC-6	BOILERS, CAST-IRON AND STEEL		1	10.00	
HVAC-7	BURNER, GAS		1	5.00	
HVAC-8	BURNER, OIL		1	5.00	
HVAC-9	COILS, PREHEAT, REHEAT, ETC. (REMOTE FROM AIR HANDLER)		1	1.00	
HVAC-10	CONDENSATE OR VACUUM PUMPS (ON STEAM RETURN SYSTEM)		1	2.00	
HVAC-11.1	COOLING TOWERS 501 - 1000 TON SPRING STARTUP (1 CELL)		1	20.30	
HVAC-11.1	COOLING TOWERS 501 - 1000 TON SPRING STARTUP (2 CELLS)		1	40.60	
HVAC-11.1	COOLING TOWERS 501 - 1000 TON SPRING STARTUP (3 CELLS)		1	60.90	
HVAC-11.1	COOLING TOWERS 501 - 1000 TON SPRING STARTUP (4 CELLS)		1	81.20	
HVAC-11.1	COOLING TOWERS 51 - 500 TON SPRING STARTUP (1 CELL)		1	10.15	
HVAC-11.1	COOLING TOWERS 51 - 500 TON SPRING STARTUP (2 CELLS)		1	20.30	
HVAC-11.1	COOLING TOWERS 51 - 500 TON SPRING STARTUP (3 CELLS)		1	30.45	
HVAC-11.1	COOLING TOWERS 51 - 500 TON SPRING STARTUP (4 CELLS)		1	40.60	
HVAC-11.1	COOLING TOWERS <= 50 TON SPRING STARTUP (1 CELL)		1	4.90	
HVAC-11.1	COOLING TOWERS <= 50 TON SPRING STARTUP (2 CELLS)		1	9.80	
HVAC-11.1	COOLING TOWERS <= 50 TON SPRING STARTUP (3 CELLS)		1	14.70	
HVAC-11.1	COOLING TOWERS <= 50 TON SPRING STARTUP (4 CELLS)		1	19.60	
HVAC-11.1	COOLING TOWERS > 1000 TON SPRING STARTUP (1 CELL)		1	26.95	
HVAC-11.1	COOLING TOWERS > 1000 TON SPRING STARTUP (2 CELLS)		1	53.90	
HVAC-11.1	COOLING TOWERS > 1000 TON SPRING STARTUP (3 CELLS)		1	80.85	
HVAC-11.1	COOLING TOWERS > 1000 TON SPRING STARTUP (4 CELLS)		1	107.80	
HVAC-11.2	COOLING TOWERS 501 - 1000 TON FALL SHUTDOWN (1 CELL)		1	8.70	
HVAC-11.2	COOLING TOWERS 501 - 1000 TON FALL SHUTDOWN (2 CELLS)		1	17.40	
HVAC-11.2	COOLING TOWERS 501 - 1000 TON FALL SHUTDOWN (3 CELLS)		1	26.10	
HVAC-11.2	COOLING TOWERS 501 - 1000 TON FALL SHUTDOWN (4 CELLS)		1	34.80	
HVAC-11.2	COOLING TOWERS 51 - 500 TON FALL SHUTDOWN (1 CELL)		1	4.35	
HVAC-11.2	COOLING TOWERS 51 - 500 TON FALL SHUTDOWN (2 CELLS)		1	8.70	
HVAC-11.2	COOLING TOWERS 51 - 500 TON FALL SHUTDOWN (3 CELLS)		1	13.05	
HVAC-11.2	COOLING TOWERS 51 - 500 TON FALL SHUTDOWN (4 CELLS)		1	17.40	
HVAC-11.2	COOLING TOWERS <= 50 TON FALL SHUTDOWN (1 CELL)		1	2.10	
HVAC-11.2	COOLING TOWERS <= 50 TON FALL SHUTDOWN (2 CELLS)		1	4.20	
HVAC-11.2	COOLING TOWERS <= 50 TON FALL SHUTDOWN (3 CELLS)		1	6.30	
HVAC-11.2	COOLING TOWERS <= 50 TON FALL SHUTDOWN (4 CELLS)		1	8.40	

Figure 3-8. PS Form 4896A, Page 1 of ~~3~~ 4 – Annual Standard Requirement Building Preventive Maintenance

TABLE A: HVAC

GUIDE NO.	TASK DESCRIPTION	QUANTITY	FREQUENCY (per year)	WORK HOURS (per freq)	TOTAL WORK HOURS
HVAC-11.1	COOLING TOWERS > 1000 TON SPRING STARTUP (1 CELL)		1	26.95	
HVAC-11.1	COOLING TOWERS > 1000 TON SPRING STARTUP (2 CELLS)		1	53.90	
HVAC-11.1	COOLING TOWERS > 1000 TON SPRING STARTUP (3 CELLS)		1	80.85	
HVAC-11.1	COOLING TOWERS > 1000 TON SPRING STARTUP (4 CELLS)		1	107.80	
HVAC-11.2	COOLING TOWERS 501 - 1000 TON FALL SHUTDOWN (1 CELL)		1	8.70	
HVAC-11.2	COOLING TOWERS 501 - 1000 TON FALL SHUTDOWN (2 CELLS)		1	17.40	
HVAC-11.2	COOLING TOWERS 501 - 1000 TON FALL SHUTDOWN (3 CELLS)		1	26.10	
HVAC-11.2	COOLING TOWERS 501 - 1000 TON FALL SHUTDOWN (4 CELLS)		1	34.80	
HVAC-11.2	COOLING TOWERS 51 - 500 TON FALL SHUTDOWN (1 CELL)		1	4.35	
HVAC-11.2	COOLING TOWERS 51 - 500 TON FALL SHUTDOWN (2 CELLS)		1	8.70	
HVAC-11.2	COOLING TOWERS 51 - 500 TON FALL SHUTDOWN (3 CELLS)		1	13.05	
HVAC-11.2	COOLING TOWERS 51 - 500 TON FALL SHUTDOWN (4 CELLS)		1	17.40	
HVAC-11.2	COOLING TOWERS <= 50 TON FALL SHUTDOWN (1 CELL)		1	2.10	
HVAC-11.2	COOLING TOWERS <= 50 TON FALL SHUTDOWN (2 CELLS)		1	4.20	
HVAC-11.2	COOLING TOWERS <= 50 TON FALL SHUTDOWN (3 CELLS)		1	6.30	
HVAC-11.2	COOLING TOWERS <= 50 TON FALL SHUTDOWN (4 CELLS)		1	8.40	

TABLE A: HVAC

GUIDE NO.	TASK DESCRIPTION	QUANTITY	FREQUENCY (per year)	WORK HOURS (per freq)	TOTAL WORK HOURS
HVAC-11.2	COOLING TOWERS > 1000 TON FALL SHUTDOWN (1 CELL)		1	11.55	
HVAC-11.2	COOLING TOWERS > 1000 TON FALL SHUTDOWN (2 CELLS)		1	23.10	
HVAC-11.2	COOLING TOWERS > 1000 TON FALL SHUTDOWN (3 CELLS)		1	34.65	
HVAC-11.2	COOLING TOWERS > 1000 TON FALL SHUTDOWN (4 CELLS)		1	46.20	
HVAC-12	FAN, CENTRIFUGAL <7HP		1	1.75	
HVAC-12	FAN, CENTRIFUGAL >=7HP		1	2.75	
HVAC-13	FILTERS, ROLL-TYPE, DISPOSABLE MEDIA		4	1.75	

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TABLE A: HVAC					
GUIDE NO.	TASK DESCRIPTION	QUANTITY	FREQUENCY (per year)	WORK HOURS (per freq)	TOTAL WORK HOURS
HVAC-11.2	COOLING TOWERS > 1000 TON FALL SHUTDOWN (1 CELL)		1	11.55	
HVAC-11.2	COOLING TOWERS > 1000 TON FALL SHUTDOWN (2 CELLS)		1	23.10	
HVAC-11.2	COOLING TOWERS > 1000 TON FALL SHUTDOWN (3 CELLS)		1	34.65	
HVAC-11.2	COOLING TOWERS > 1000 TON FALL SHUTDOWN (4 CELLS)		1	46.20	
HVAC-12	FAN, CENTRIFUGAL <7HP		1	1.75	
HVAC-12	FAN, CENTRIFUGAL >=7HP		1	2.75	
HVAC-13	FILTERS, ROLL-TYPE, DISPOSABLE MEDIA		4	1.75	
HVAC-14	CONTROLS AND MECHANISMS ROLL TYPE FILTERS		1	1.50	
HVAC-15	FILTERS, THROW-AWAY		4	0.10	
HVAC-16	FAN, PROPELLER, PEDESTAL AND WALL MOUNTED		1	0.75	
HVAC-17	HEAT/COOLING UNIT, ROOF TOP		2	8.50	
HVAC-18	REFRIGERATION MACHINES, ABSORPTION TYPE <= 40 TONS		1	15.25	
HVAC-18	REFRIGERATION MACHINES, ABSORPTION TYPE 41 - 100 TONS		1	19.25	
HVAC-18	REFRIGERATION MACHINES, ABSORPTION TYPE 101 - 400 TONS		1	23.00	
HVAC-18	REFRIGERATION MACHINES, ABSORPTION TYPE > 400 TONS		1	30.75	
HVAC-19	REFRIGERATION MACHINES (CENTRIFUGAL AND RECIPROCATING) <= 40 TONS		1	23.00	
HVAC-19	REFRIGERATION MACHINES (CENTRIFUGAL AND RECIPROCATING) 41 - 100 TONS		1	31.00	
HVAC-19	REFRIGERATION MACHINES (CENTRIFUGAL AND RECIPROCATING) 101 - 350 TONS		1	39.00	
HVAC-19	REFRIGERATION MACHINES (CENTRIFUGAL AND RECIPROCATING) 351 - 500 TONS		1	59.00	
HVAC-19	REFRIGERATION MACHINES (CENTRIFUGAL AND RECIPROCATING) 501 - 750 TONS		1	66.00	
HVAC-19	REFRIGERATION MACHINES (CENTRIFUGAL AND RECIPROCATING) 751 - 1000 TONS		1	77.00	
HVAC-19	REFRIGERATION MACHINES (CENTRIFUGAL AND RECIPROCATING) > 1000 TONS		1	96.00	
HVAC-20	HEATER, ELECTRIC, IN-DUCT		1	0.25	
HVAC-21	HEATER, ELECTRIC, BASEBOARD		1	0.15	
HVAC-22	UNIT HEATERS (STEAM AND HOT WATER)		1	1.00	
HVAC-23	UNIT HEATERS (GAS FIRED)		1	1.50	
HVAC-24	FIRE DAMPERS (IN DUCT)		1	0.20	
HVAC-25	SPLIT SYSTEM EVAPORATOR UNITS (ANNUAL)		1	4.00	
HVAC-26	SPLIT SYSTEM EVAPORATOR UNITS (MONTHLY)		12	0.50	
	SUBTOTAL				

TABLE B: ELEC					
GUIDE NO.	TASK DESCRIPTION	QUANTITY	FREQUENCY (per year)	WORK HOURS (per freq)	TOTAL WORK HOURS
ELEC-1	MOTORS		1	1.00	
ELEC-2	BACK-UP GENERATOR- GAS OR NATURAL GAS ENGINES		1	2.00 to 6.00	
ELEC-3	EMERGENCY GENERATORS, DIESEL POWER		1	3.00 to 8.00	
ELEC-4	GENERATORS, ALL TYPES		12	1.00 to 2.00	
ELEC-5	PANEL, ELECTRICAL (INFRARED SCAN)		1	0.15	
	SUBTOTAL				

TABLE C: PLUM

Figure 3-9. PS Form 4896A, Page 2 of ~~3~~ 4 – Annual Standard Requirement Building Preventive Maintenance

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GUIDE NO.	TASK DESCRIPTION	QUANTITY	FREQUENCY (per year)	WORK HOURS (per freq)	TOTAL WORK HOURS
HVAC-14	CONTROLS AND MECHANISMS ROLL TYPE FILTERS		1	1.50	
HVAC-15	FILTERS, THROW-AWAY		4	0.10	
HVAC-16	FAN, PROPELLER, PEDESTAL AND WALL MOUNTED		1	0.75	
HVAC-17	HEAT/COOLING UNIT, ROOF TOP		2	8.50	
HVAC-18	REFRIGERATION MACHINES, ABSORPTION TYPE <= 40 TONS		1	15.25	
HVAC-18	REFRIGERATION MACHINES, ABSORPTION TYPE 41 - 100 TONS		1	19.25	
HVAC-18	REFRIGERATION MACHINES, ABSORPTION TYPE 101 - 400 TONS		1	23.00	
HVAC-18	REFRIGERATION MACHINES, ABSORPTION TYPE > 400 TONS		1	30.75	
HVAC-19	REFRIGERATION MACHINES (CENTRIFUGAL AND RECIPROCATING) <= 40 TONS		1	23.00	
HVAC-19	REFRIGERATION MACHINES (CENTRIFUGAL AND RECIPROCATING) 41 100 TONS		1	31.00	
HVAC-19	REFRIGERATION MACHINES (CENTRIFUGAL AND RECIPROCATING) 101 350 TONS		1	39.00	
HVAC-19	REFRIGERATION MACHINES (CENTRIFUGAL AND RECIPROCATING) 351 500 TONS		1	59.00	
HVAC-19	REFRIGERATION MACHINES (CENTRIFUGAL AND RECIPROCATING) 501 750 TONS		1	66.00	
HVAC-19	REFRIGERATION MACHINES (CENTRIFUGAL AND RECIPROCATING) 751 1000 TONS		1	77.00	
HVAC-19	REFRIGERATION MACHINES (CENTRIFUGAL AND RECIPROCATING) > 1000 TONS		1	96.00	
HVAC-20	HEATER, ELECTRIC, IN-DUCT		1	0.25	
HVAC-21	HEATER, ELECTRIC, BASEBOARD		1	0.15	
HVAC-22	UNIT HEATERS (STEAM AND HOT WATER)		1	1.00	
HVAC-23	UNIT HEATERS (GAS FIRED)		1	1.50	
HVAC-24	FIRE DAMPERS (IN DUCT)		1	0.20	
HVAC-25	SPLIT SYSTEM EVAPORATOR		1	4	
HVAC-25	SPLIT SYSTEM EVAPORATOR		12	0.5	
HVAC-25	SPLIT SYSTEM CONDENSER		1	1	
	SUBTOTAL				

TABLE B: ELEC

GUIDE NO.	TASK DESCRIPTION	QUANTITY	FREQUENCY (per year)	WORK HOURS (per freq)	TOTAL WORK HOURS
ELEC-1	MOTORS		1	1.00	

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ELEC-2	BACK-UP GENERATOR- GAS OR NATURAL GAS ENGINES		1	2.00 to 6.00	
ELEC-3	EMERGENCY GENERATORS, DIESEL POWER		1	3.00 to 8.00	
ELEC-4	GENERATORS, ALL OTHER TYPES		12	1.00 to 2.00	
ELEC-5	PANEL, ELECTRICAL (INFRARED SCAN)		1	0.15	
	SUBTOTAL				

TABLE C: PLUM

GUIDE NO.	TASK DESCRIPTION	QUANTITY	FREQUENCY (per year)	WORK HOURS (per freq)	TOTAL WORK HOURS
PLUM-1	FIRE EXTINGUISHER, PORTABLE, STORED-PRESSURE		1	0.10	
PLUM-2	SUMP PUMPS		1	3.75	
PLUM-3	VALVES, REGULATING		1	1.00 to 4.00	
PLUM-4	VALVES, MANUALLY OPERATED (MAIN LINE)		1	1.00	
PLUM-4	VALVES, MANUALLY OPERATED (OTHER VALVES OVER 2 INCHES)		0.2	0.50	
PLUM-5	VALVES, MOTOR OPERATED		1	1.50	
PLUM-6	STEAM TRAPS, ALL TYPES		1	0.50	
PLUM-7	PUMPS, CENTRIFUGAL >=25HP		1	6.00	
PLUM-7	PUMPS, CENTRIFUGAL >5HP AND <25HP		1	4.00	
PLUM-8	ROOF, INSPECTION		2	1.00 to 2.00	
PLUM-9	HOT WATER HEATERS (CONVERTERS)		1	4.50	
PLUM-10	HOT WATER HEATERS, DOMESTIC TYPE		1	1.50	
PLUM-11	FIRE PUMPS, ELECTRIC MOTOR DRIVE		1	0.75	
PLUM-12	FIRE PUMPS, INTERNAL COMBUSTION ENGINE DRIVE		1	0.75 to 1.50	
PLUM-13	DRINKING WATER COOLERS		1	1.00	
PLUM-14	EYEWASH, PLUMBED		1	0.30	
PLUM-15	SHOWERS, EMERGENCY		1	0.30	
PLUM-16	SPRINKLER HEAD (SPRINKLED AREAS) **0.1/1000 sq. ft-Cory**		1		
PLUM-17	FIRE CONTROL VALVE (WATER BASED FIRE SUPPRESSION SYSTEMS) (Weekly sealed) (Monthly locked) **0.1/frequency -Cory**				
	SUBTOTAL				

TABLE D: EMS

GUIDE NO.	TASK DESCRIPTION	QUANTITY	FREQUENCY (per year)	WORK HOURS (per freq)	TOTAL WORK HOURS
EMS-5	EMERGENCY GENERATORS		12	1.00 to 2.00	
EMS-6	FIRE ALARM BOXES (MANUAL)		4 to 6	0.10	
	SUBTOTAL				

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TABLE E: MISC

GUIDE NO.	TASK DESCRIPTION	QUANTITY	FREQUENCY (per year)	WORK HOURS (per freq)	TOTAL WORK HOURS
MISC-1	AIR COMPRESSORS		1	1.00	
MISC-2	LAWNMOWERS AND EDGERS		2	1.00	
MISC-3	SWEEPERS (GASOLINE)		2 to 6	2.00	
MISC-4	PAPER BALERS		1	3.00	
MISC-5-1	DOCK DOORS, POWER OPERATED		2	2.00	
MISC-5-2	DOCK DOORS, MANUAL OPERATED		2	1.00	
MISC-6	PEDESTRIAN DOORS, POWER OPERATED MAIN AND DOCK ENTRANCES		4	1.00	
MISC-7	PEDESTRIAN DOORS, NON-POWERED MAIN AND DOCK ENTRANCE		2	1.00	
MISC-8	DOCK LEVELERS, POWERED		4	1.25	
MISC-9	FIRE DOORS, STAIRWELLS AND EXITWAYS (SWINGING)		4	0.10	
MISC-10	FIRE DOORS, SLIDING TYPE		4	0.10	
MISC-11	STATIONARY PACKERS		52	1.00	
MISC-12	STATIONARY PACKERS		12	1.00	
MISC-13	STATIONARY PACKERS		4	2.00	
MISC-14	POWER LIFTS		12	1.00	
MISC-15	SNOW BLOWER, WALKING TYPE		1	1.00	
MISC-16	DOCK LEVELERS, MANUAL		4	0.50	
MISC-17	SWEEPERS (BATTERY)		4 to 12	1.00	
MISC-18	FLOOR SCRUBBERS, AUTOMATIC; VACUUM, BATTERY POWERED		4 to 12	1.00	

TABLE E: MISC

GUIDE NO.	TASK DESCRIPTION	QUANTITY	FREQUENCY (per year)	WORK HOURS (per freq)	TOTAL WORK HOURS
MISC-19	BATTERY, PIV, FLOODED LEAD ACID		2	0.30	
MISC-20	TRAILER RESTRAINTS - QUARTERLY		4	1.00	
MISC-21	TRAILER RESTRAINTS - ANNUAL		1	0.50	
MMO09615	PIVMS VAC (MONTHLY)		12	0.55	
MMO09615	PIVMS VAC (QUARTERLY)		4	0.52	
MMO03718	COMPACTOR, PTR		1	27.89	
MMO03218	COMPRESSED AIR LEAK SURVEY		1	0.00 to 24.00	
MMO16619	HOIST, 5 DAY OPERATION		260	0.15	
MMO16619	HOIST, 6 DAY OPERATION		312	0.15	
MMO16619	HOIST, 7 DAY OPERATION		364	0.15	
MMO16619	HOIST, MONTHLY		12	0.15	

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MMO16619	HOIST, SEMI ANNUAL (ALL)		2	0.93	
MMO16619	HOIST, SEMI ANNUAL (PENTHOUSE)		2	0.15	
MMO16619	HOIST, WEEKLY		52	0.15	
	FORKLIFT		1	50.00	
	PALLET TRUCK, MOTORIZED		1	50.00	
	PALLET TRUCK, NON MOTORIZED		1	1.00	
	TOW TRACTOR		1	52.00	
	SUBTOTAL				

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GUIDE NO.	TASK DESCRIPTION TABLE C: PLUM	QUANTITY	FREQUENCY (per year)	WORK HOURS (per freq)	TOTAL WORK HOURS
GUIDE NO.	TASK DESCRIPTION	QUANTITY	FREQUENCY (per year)	WORK HOURS (per freq)	TOTAL WORK HOURS
PLUM-1	FIRE EXTINGUISHER, PORTABLE, STORED-PRESSURE		1	0.10	
PLUM-2	SUMP PUMPS		1	3.75	
PLUM-3	VALVES, REGULATING		1	1.00 to 4.00	
PLUM-4	VALVES, MANUALLY OPERATED (MAIN LINE)		1	1.00	
PLUM-4	VALVES, MANUALLY OPERATED (OTHER VALVES OVER 2 INCHES)		0.2	0.50	
PLUM-5	VALVES, MOTOR OPERATED		1	1.50	
PLUM-6	STEAM TRAPS, ALL TYPES		1	0.50	
PLUM-7	PUMPS, CENTRIFUGAL >=25HP		1	6.00	
PLUM-7	PUMPS, CENTRIFUGAL >5HP AND <25HP		1	4.00	
PLUM-8	ROOF, INSPECTION		2	1.00 to 2.00	
PLUM-9	HOT WATER HEATERS (CONVERTERS)		1	4.50	
PLUM-10	HOT WATER HEATERS, DOMESTIC TYPE		1	1.50	
PLUM-11	FIRE PUMPS, ELECTRIC MOTOR DRIVE		1	0.75	
PLUM-12	FIRE PUMPS, INTERNAL COMBUSTION ENGINE DRIVE		1	0.75 to 1.50	
PLUM-13	DRINKING WATER COOLERS		1	1.00	
PLUM-14	EYEWASH, PLUMBED		1	0.30	
PLUM-15	SHOWERS, EMERGENCY		1	0.30	
	SUBTOTAL				

TABLE D: EMS					
GUIDE NO.	TASK DESCRIPTION	QUANTITY	FREQUENCY (per year)	WORK HOURS (per freq)	TOTAL WORK HOURS
EMS-5	EMERGENCY GENERATORS		12	1.00 to 2.00	
EMS-6	FIRE ALARM BOXES (MANUAL)		4 to 6	0.10	
	SUBTOTAL				

TABLE E: MISC					
GUIDE NO.	TASK DESCRIPTION	QUANTITY	FREQUENCY (per year)	WORK HOURS (per freq)	TOTAL WORK HOURS
MISC-1	AIR COMPRESSORS		1	1.00	
MISC-2	LAWNMOWERS AND EDGERS		2	1.00	
MISC-3	SWEEPERS (GASOLINE)		2 to 6	2.00	
MISC-4	PAPER BALERS		1	3.00	
MISC-5.1	DOCK DOORS, POWER OPERATED		2	2.00	
MISC-5.2	DOCK DOORS, MANUAL OPERATED		2	1.00	
MISC-6	DOOR, PEDESTRIAN DOORS, POWER OPERATED MAIN AND DOCK ENTRANCES		4	1.00	
MISC-7	DOOR, PEDESTRIAN DOORS, NON-POWERED MAIN AND DOCK ENTRANCE		2	1.00	
MISC-8	DOCK LEVELERS, POWERED		4	1.25	
MISC-9	FIRE DOORS, STAIRWELLS AND EXITWAYS (SWINGING)		4	0.10	
MISC-10	FIRE DOORS, SLIDING TYPE		4	0.10	
MISC-11	STATIONARY PACKERS (WEEKLY)		52	1.00	
MISC-12	STATIONARY PACKERS (MONTHLY)		12	1.00	
MISC-13	STATIONARY PACKERS (QUARTERLY)		4	2.00	
MISC-14	POWER LIFTS		12	1.00	
MISC-15	SNOW BLOWER, WALKING TYPE		1	1.00	

Figure 3-10. PS Form 4896A, Page 3 of ~~3~~ 4 – Annual Standard Requirement Building Preventive Maintenance

TABLE E: MISC					
GUIDE NO.	TASK DESCRIPTION	QUANTITY	FREQUENCY (per year)	WORK HOURS (per freq)	TOTAL WORK HOURS
MISC-16	DOCK LEVELERS, MANUAL		4	0.50	
MISC-17	SWEEPERS (BATTERY)		4 to 12	1.00	
MISC-18	FLOOR SCRUBBERS, AUTOMATIC; VACUUM, BATTERY POWERED		4 to 12	1.00	
MISC-19	BATTERY, PIV, FLOODED LEAD ACID		2	0.30	
MISC-20	TRAILER RESTRAINTS - QUARTERLY		4	1.00	
MISC-21	TRAILER RESTRAINTS - ANNUAL		1	0.50	
MMO09615	PIVMS VAC (MONTHLY)		12	0.55	
MMO09615	PIVMS VAC (QUARTERLY)		4	0.52	
MMO03718	COMPACTOR, PTR		1	27.89	
MMO03218	COMPRESSED AIR LEAK SURVEY		1	0.00 to 24.00	
MMO09520	S6 PALLET JACK - 5 DAY		260	0.31	
MMO09520	S6 PALLET JACK - 6 DAY		312	0.30	
MMO09520	S6 PALLET JACK - 7 DAY		364	0.30	
MMO09620	DAIFUKU PALLET JACK 5 DAY		260	0.32	
MMO09620	DAIFUKU PALLET JACK 6 DAY		312	0.31	
MMO09620	DAIFUKU PALLET JACK 7 DAY		364	0.31	
MMO09720	DAIFUKU TOW MOTOR 5 DAY		260	0.32	
MMO09720	DAIFUKU TOW MOTOR 6 DAY		312	0.31	
MMO09720	DAIFUKU TOW MOTOR 7 DAY		364	0.31	
MMO09820	SEEGRID TOW MOTOR 5 DAY		260	0.28	
MMO09820	SEEGRID TOW MOTOR 6 DAY		312	0.27	
MMO09820	SEEGRID TOW MOTOR 7 DAY		364	0.27	
MMO16619	HOIST, 5 DAY OPERATION		260	0.15	
MMO16619	HOIST, 6 DAY OPERATION		312	0.15	
MMO16619	HOIST, 7 DAY OPERATION		364	0.15	
MMO16619	HOIST, MONTHLY		12	0.15	
MMO16619	HOIST, SEMI-ANNUAL (ALL)		2	0.93	
MMO16619	HOIST, SEMI-ANNUAL (PENTHOUSE)		2	0.15	
MMO16619	HOIST, WEEKLY		52	0.15	
	FORKLIFT		1	50.00	
	PALLET TRUCK, MOTORIZED		1	50.00	
	PALLET TRUCK, NON MOTORIZED		1	1.00	
	TOW TRACTOR		1	52.00	
	SUBTOTAL				

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U.S. POSTAL SERVICE ANNUAL STANDARD REQUIREMENT BUILDING PREVENTIVE MAINTENANCE

TABLE A: HVAC

GUIDE NO.	TASK DESCRIPTION	QUANTITY	FREQUENCY (per year)	WORK HOURS (per freq)	TOTAL WORK HOURS
HVAC-1	AC PACKAGE UNIT <10 TONS		1	8.50	
HVAC-1	AC PACKAGE UNIT >=10 TONS		1	10.00	
HVAC-2	AIR CONDITIONING, WINDOW UNITS		1	0.50	
HVAC-3	AIR COOLED CONDENSERS <= 10 TONS		1	0.75	
HVAC-3	AIR COOLED CONDENSERS >10 TONS and <=30 TONS		1	1.00	
HVAC-3	AIR COOLED CONDENSERS >30 TONS		1	1.75	
HVAC-4	AIR HANDLERS >10HP		1	4.50	
HVAC-4	AIR HANDLERS <=10HP		1	2.50	
HVAC-5	BOILERS, OIL FIRED		1	10.00	
HVAC-6	BOILERS, CAST IRON AND STEEL		1	10.00	
HVAC-7	BURNER, GAS		1	5.00	
HVAC-8	BURNER, OIL		1	5.00	
HVAC-9	COILS, PREHEAT, REHEAT, ETC. (REMOTE FROM AIR HANDLER)		1	1.00	
HVAC-10	CONDENSATE OR VACUUM PUMPS (ON STEAM RETURN SYSTEM)		1	2.00	
HVAC-11.1	COOLING TOWERS 501 - 1000 TON SPRING STARTUP (1 CELL)		1	20.30	
HVAC-11.1	COOLING TOWERS 501 - 1000 TON SPRING STARTUP (2 CELLS)		1	40.60	
HVAC-11.1	COOLING TOWERS 501 - 1000 TON SPRING STARTUP (3 CELLS)		1	60.90	
HVAC-11.1	COOLING TOWERS 501 - 1000 TON SPRING STARTUP (4 CELLS)		1	81.20	
HVAC-11.1	COOLING TOWERS 51 - 500 TON SPRING STARTUP (1 CELL)		1	10.15	
HVAC-11.1	COOLING TOWERS 51 - 500 TON SPRING STARTUP (2 CELLS)		1	20.30	
HVAC-11.1	COOLING TOWERS 51 - 500 TON SPRING STARTUP (3 CELLS)		1	30.45	
HVAC-11.1	COOLING TOWERS 51 - 500 TON SPRING STARTUP (4 CELLS)		1	40.60	

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HVAC-11.1	COOLING TOWERS <= 50 TON SPRING STARTUP (1 CELL)		1	4.90	
HVAC-11.1	COOLING TOWERS <= 50 TON SPRING STARTUP (2 CELLS)		1	9.80	
HVAC-11.1	COOLING TOWERS <= 50 TON SPRING STARTUP (3 CELLS)		1	14.70	
HVAC-11.1	COOLING TOWERS <= 50 TON SPRING STARTUP (4 CELLS)		1	19.60	
HVAC-11.1	COOLING TOWERS > 1000 TON SPRING STARTUP (1 CELL)		1	26.95	
HVAC-11.1	COOLING TOWERS > 1000 TON SPRING STARTUP (2 CELLS)		1	53.90	
HVAC-11.1	COOLING TOWERS > 1000 TON SPRING STARTUP (3 CELLS)		1	80.85	
HVAC-11.1	COOLING TOWERS > 1000 TON SPRING STARTUP (4 CELLS)		1	107.80	
HVAC-11.2	COOLING TOWERS 501 - 1000 TON FALL SHUTDOWN (1 CELL)		1	8.70	
HVAC-11.2	COOLING TOWERS 501 - 1000 TON FALL SHUTDOWN (2 CELLS)		1	17.40	
HVAC-11.2	COOLING TOWERS 501 - 1000 TON FALL SHUTDOWN (3 CELLS)		1	26.10	
HVAC-11.2	COOLING TOWERS 501 - 1000 TON FALL SHUTDOWN (4 CELLS)		1	34.80	
HVAC-11.2	COOLING TOWERS 51 - 500 TON FALL SHUTDOWN (1 CELL)		1	4.35	
HVAC-11.2	COOLING TOWERS 51 - 500 TON FALL SHUTDOWN (2 CELLS)		1	8.70	
HVAC-11.2	COOLING TOWERS 51 - 500 TON FALL SHUTDOWN (3 CELLS)		1	13.05	
HVAC-11.2	COOLING TOWERS 51 - 500 TON FALL SHUTDOWN (4 CELLS)		1	17.40	
HVAC-11.2	COOLING TOWERS <= 50 TON FALL SHUTDOWN (1 CELL)		1	2.10	
HVAC-11.2	COOLING TOWERS <= 50 TON FALL SHUTDOWN (2 CELLS)		1	4.20	
HVAC-11.2	COOLING TOWERS <= 50 TON FALL SHUTDOWN (3 CELLS)		1	6.30	
HVAC-11.2	COOLING TOWERS <= 50 TON FALL SHUTDOWN (4 CELLS)		1	8.40	

TABLE A: HVAC

GUIDE NO.	TASK DESCRIPTION	QUANTITY	FREQUENCY (per year)	WORK HOURS (per freq)	TOTAL WORK HOURS
HVAC-11.2	COOLING TOWERS > 1000 TON FALL SHUTDOWN (1 CELL)		1	11.55	
HVAC-11.2	COOLING TOWERS > 1000 TON FALL SHUTDOWN (2 CELLS)		1	23.10	
HVAC-11.2	COOLING TOWERS > 1000 TON FALL SHUTDOWN (3 CELLS)		1	34.65	
HVAC-11.2	COOLING TOWERS > 1000 TON FALL SHUTDOWN (4 CELLS)		1	46.20	
HVAC-12	FAN, CENTRIFUGAL <7HP		1	1.75	
HVAC-12	FAN, CENTRIFUGAL >=7HP		1	2.75	

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HVAC-13	FILTERS, ROLL TYPE, DISPOSABLE MEDIA		4	1.75		
HVAC-14	CONTROLS AND MECHANISMS ROLL TYPE FILTERS		1	1.50		
HVAC-15	FILTERS, THROW AWAY		4	0.10		
HVAC-16	FAN, PROPELLER, PEDESTAL AND WALL MOUNTED		1	0.75		
HVAC-17	HEAT/COOLING UNIT, ROOF TOP		2	8.50		
HVAC-18	REFRIGERATION MACHINES, ABSORPTION TYPE <= 40 TONS		1	15.25		
HVAC-18	REFRIGERATION MACHINES, ABSORPTION TYPE 41 - 100 TONS		1	19.25		
HVAC-18	REFRIGERATION MACHINES, ABSORPTION TYPE 101 - 400 TONS		1	23.00		
HVAC-18	REFRIGERATION MACHINES, ABSORPTION TYPE > 400 TONS		1	30.75		
HVAC-19	REFRIGERATION MACHINES (CENTRIFUGAL AND RECIPROCATING) <= 40 TONS		1	23.00		
HVAC-19	REFRIGERATION MACHINES (CENTRIFUGAL AND RECIPROCATING) 41-100 TONS		1	31.00		
HVAC-19	REFRIGERATION MACHINES (CENTRIFUGAL AND RECIPROCATING) 101-350 TONS		1	39.00		
HVAC-19	REFRIGERATION MACHINES (CENTRIFUGAL AND RECIPROCATING) 351-500 TONS		1	59.00		
HVAC-19	REFRIGERATION MACHINES (CENTRIFUGAL AND RECIPROCATING) 501-750 TONS		1	66.00		
HVAC-19	REFRIGERATION MACHINES (CENTRIFUGAL AND RECIPROCATING) 751-1000 TONS		1	77.00		
HVAC-19	REFRIGERATION MACHINES (CENTRIFUGAL AND RECIPROCATING) > 1000 TONS		1	96.00		
HVAC-20	HEATER, ELECTRIC, IN-DUCT		1	0.25		
HVAC-21	HEATER, ELECTRIC, BASEBOARD		1	0.15		
HVAC-22	UNIT HEATERS (STEAM AND HOT WATER)		1	1.00		
HVAC-23	UNIT HEATERS (GAS FIRED)		1	1.50		
HVAC-24	FIRE DAMPERS (IN DUCT)		1	0.20		
HVAC-25	SPLIT SYSTEM EVAPORATOR		1	4		
HVAC-25	SPLIT SYSTEM EVAPORATOR		12	.5		
HVAC-25	SPLIT SYSTEM CONDENSER		1	1		
	SUBTOTAL					

TABLE B: ELEC

GUIDE NO.	TASK DESCRIPTION	QUANTITY	FREQUENCY (per year)	WORK HOURS (per freq)	TOTAL WORK HOURS
ELEC-1	MOTORS		1	1.00	
ELEC-2	BACK-UP GENERATOR- GAS OR NATURAL GAS ENGINES		1	2.00 to 6.00	
ELEC-3	EMERGENCY GENERATORS, DIESEL POWER		1	3.00 to 8.00	

ELEC-4	GENERATORS, ALL OTHER TYPES		12	1.00 to 2.00	
ELEC-5	PANEL, ELECTRICAL (INFRARED SCAN)		1	0.15	
	SUBTOTAL				

TABLE C: PLUM

GUIDE NO.	TASK DESCRIPTION	QUANTITY	FREQUENCY (per year)	WORK HOURS (per freq)	TOTAL WORK HOURS
PLUM-1	FIRE EXTINGUISHER, PORTABLE, STORED-PRESSURE		1	0.10	
PLUM-2	SUMP PUMPS		1	3.75	
PLUM-3	VALVES, REGULATING		1	1.00 to 4.00	
PLUM-4	VALVES, MANUALLY OPERATED (MAIN LINE)		1	1.00	
PLUM-4	VALVES, MANUALLY OPERATED (OTHER VALVES OVER 2 INCHES)		0.2	0.50	
PLUM-5	VALVES, MOTOR OPERATED		1	1.50	
PLUM-6	STEAM TRAPS, ALL TYPES		1	0.50	
PLUM-7	PUMPS, CENTRIFUGAL >=25HP		1	6.00	
PLUM-7	PUMPS, CENTRIFUGAL >5HP AND <25HP		1	4.00	
PLUM-8	ROOF, INSPECTION		2	1.00 to 2.00	
PLUM-9	HOT WATER HEATERS (CONVERTERS)		1	4.50	
PLUM-10	HOT WATER HEATERS, DOMESTIC TYPE		1	1.50	
PLUM-11	FIRE PUMPS, ELECTRIC MOTOR DRIVE		1	0.75	
PLUM-12	FIRE PUMPS, INTERNAL COMBUSTION ENGINE DRIVE		1	0.75 to 1.50	
PLUM-13	DRINKING WATER COOLERS		1	1.00	
PLUM-14	EYEWASH, PLUMBED		1	0.30	
PLUM-15	SHOWERS, EMERGENCY		1	0.30	
	SUBTOTAL				

TABLE D: EMS

GUIDE NO.	TASK DESCRIPTION	QUANTITY	FREQUENCY (per year)	WORK HOURS (per freq)	TOTAL WORK HOURS
EMS-5	EMERGENCY GENERATORS		12	1.00 to 2.00	
EMS-6	FIRE ALARM BOXES (MANUAL)		4 to 6	0.10	
	SUBTOTAL				

TABLE E: MISC

GUIDE NO.	TASK DESCRIPTION	QUANTITY	FREQUENCY (per year)	WORK HOURS (per freq)	TOTAL WORK HOURS
MISC-1	AIR COMPRESSORS		1	1.00	
MISC-2	LAWNMOWERS AND EDGERS		2	1.00	
MISC-3	SWEEPERS (GASOLINE)		2 to 6	2.00	

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MISC-4	PAPER BALERS		1	3.00	
MISC-5-1	DOCK DOORS, POWER OPERATED		2	2.00	
MISC-5-2	DOCK DOORS, MANUAL OPERATED		2	1.OO	
MISC-6	PEDESTRIAN DOORS, POWER OPERATED MAIN AND DOCK ENTRANCES		4	1.00	
MISC-7	PEDESTRIAN DOORS, NON-POWERED MAIN AND DOCK ENTRANCE		2	1.00	
MISC-8	DOCK LEVELERS, POWERED		4	1.25	
MISC-9	FIRE DOORS, STAIRWELLS AND EXITWAYS (SWINGING)		4	0.10	
MISC-10	FIRE DOORS, SLIDING TYPE		4	0.10	
MISC-11	STATIONARY PACKERS		52	1.00	
MISC-12	STATIONARY PACKERS		12	1.00	
MISC-13	STATIONARY PACKERS		4	2.00	
MISC-14	POWER LIFTS		12	1.00	
MISC-15	SNOW BLOWER, WALKING TYPE		1	1.00	
MISC-16	DOCK LEVELERS, MANUAL		4	0.50	
MISC-17	SWEEPERS (BATTERY)		4 to 12	1.00	
MISC-18	FLOOR SCRUBBERS, AUTOMATIC; VACUUM, BATTERY POWERED		4 to 12	1.00	

TABLE E: MISC

GUIDE NO.	TASK DESCRIPTION	QUANTITY	FREQUENCY (per year)	WORK HOURS (per freq)	TOTAL WORK HOURS
MISC-19	BATTERY, PIV, FLOODED LEAD ACID		2	0.30	
MISC-20	TRAILER RESTRAINTS - QUARTERLY		4	1.00	
MISC-21	TRAILER RESTRAINTS - ANNUAL		1	0.50	
MMO09615	PIVMS VAC (MONTHLY)		12	0.55	
MMO09615	PIVMS VAC (QUARTERLY)		4	0.52	
MMO03718	COMPACTOR, PTR		1	27.89	
MMO03218	COMPRESSED AIR LEAK SURVEY		1	0.00 to 24.00	
MMO16619	HOIST, 5 DAY OPERATION		260	0.15	
MMO16619	HOIST, 6 DAY OPERATION		312	0.15	
MMO16619	HOIST, 7 DAY OPERATION		364	0.15	
MMO16619	HOIST, MONTHLY		12	0.15	
MMO16619	HOIST, SEMI-ANNUAL (ALL)		2	0.93	
MMO16619	HOIST, SEMI-ANNUAL (PENTHOUSE)		2	0.15	
MMO16619	HOIST, WEEKLY		52	0.15	
	FORKLIFT		1	50.00	
	PALLET TRUCK, MOTORIZED		1	50.00	
	PALLET TRUCK, NON MOTORIZED		1	1.00	

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	TOW TRACTOR		1	52.00	
	SUBTOTAL				

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Figure 3- Figure 3-11. PS Form 4896A, Page 1 4 of 5 4 – Annual Standard Requirement Building Preventive Maintenance

GUIDE NO.	TASK DESCRIPTION	QUANTITY	FREQUENCY (per year)	WORK HOURS (per freq)	TOTAL WORK HOURS
EMS-5	EMERGENCY GENERATORS		12	1.00 to 2.00	
EMS-6	FIRE ALARM BOXES (MANUAL)		4 to 6	0.10	
	SUBTOTAL				

TABLE E: MISC

GUIDE NO.	TASK DESCRIPTION	QUANTITY	FREQUENCY (per year)	WORK HOURS (per freq)	TOTAL WORK HOURS
MISC-1	AIR COMPRESSORS		1	1.00	
MISC-2	LAWNMOWERS AND EDGERS		2	1.00	
MISC-3	SWEEPERS (GASOLINE)		2 to 6	2.00	
MISC-4	PAPER BALERS		1	3.00	
MISC-5-1	DOCK DOORS, POWER OPERATED		2	2.00	
MISC-5-2	DOCK DOORS, MANUAL OPERATED		2	1.00	
MISC-6	PEDESTRIAN DOORS, POWER OPERATED MAIN AND DOCK ENTRANCES		4	1.00	
MISC-7	PEDESTRIAN DOORS, NON-POWERED MAIN AND DOCK ENTRANCE		2	1.00	
MISC-8	DOCK LEVELERS, POWERED		4	1.25	
MISC-9	FIRE DOORS, STAIRWELLS AND EXITWAYS (SWINGING)		4	0.10	
MISC-10	FIRE DOORS, SLIDING TYPE		4	0.10	
MISC-11	STATIONARY PACKERS		52	1.00	
MISC-12	STATIONARY PACKERS		12	1.00	
MISC-13	STATIONARY PACKERS		4	2.00	
MISC-14	POWER LIFTS		12	1.00	
MISC-15	SNOW BLOWER, WALKING TYPE		1	1.00	
MISC-16	DOCK LEVELERS, MANUAL		4	0.50	
MISC-17	SWEEPERS (BATTERY)		4 to 12	1.00	
MISC-18	FLOOR SCRUBBERS, AUTOMATIC; VACUUM, BATTERY POWERED		4 to 12	1.00	

TABLE E: MISC

GUIDE NO.	TASK DESCRIPTION	QUANTITY	FREQUENCY (per year)	WORK HOURS	TOTAL WORK

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				(per freq)	HOURS
MISC-19	BATTERY, PIV, FLOODED LEAD ACID		2	0.30	
MISC-20	TRAILER RESTRAINTS - QUARTERLY		4	1.00	
MISC-21	TRAILER RESTRAINTS - ANNUAL		1	0.50	

Figure 3-12. PS Form 4896A, Page 5 of 6 – Annual Standard Requirement Building Preventive Maintenance

FOR REVIEW PURPOSES - BLANK FORM DATE:
PREPARED BY:

U.S. POSTAL SERVICE ANNUAL STANDARD REQUIREMENT BUILDING PREVENTIVE MAINTENANCE

TABLE A: HVAC

GUIDE NO.	TASK DESCRIPTION	QUANTITY	FREQUENCY (per year)	WORK HOURS (per freq)	TOTAL WORK HOURS
HVAC-1	AC PACKAGE UNIT <10 TONS		1	8.50	
HVAC-1	AC PACKAGE UNIT >=10 TONS		1	10.00	
HVAC-2	AIR-CONDITIONING, WINDOW UNITS		1	0.50	
HVAC-3	AIR COOLED CONDENSERS <= 10 TONS		1	0.75	
HVAC-3	AIR COOLED CONDENSERS >10 TONS and <=30 TONS		1	1.00	
HVAC-3	AIR COOLED CONDENSERS >30 TONS		1	1.75	
HVAC-4	AIR HANDLERS >10HP		1	4.50	
HVAC-4	AIR HANDLERS <=10HP		1	2.50	
HVAC-5	BOILERS, OIL FIRED		1	10.00	
HVAC-6	BOILERS, CAST-IRON AND STEEL		1	10.00	
HVAC-7	BURNER, GAS		1	5.00	
HVAC-8	BURNER, OIL		1	5.00	
HVAC-9	COILS, PREHEAT, REHEAT, ETC. (REMOTE FROM AIR HANDLER)		1	1.00	
HVAC-10	CONDENSATE OR VACUUM PUMPS (ON STEAM RETURN SYSTEM)		1	2.00	
HVAC-11.1	COOLING TOWERS 501 - 1000 TON SPRING STARTUP (1 CELL)		1	20.30	
HVAC-11.1	COOLING TOWERS 501 - 1000 TON SPRING STARTUP (2 CELLS)		1	40.60	
HVAC-11.1	COOLING TOWERS 501 - 1000 TON SPRING STARTUP (3 CELLS)		1	60.90	
HVAC-11.1	COOLING TOWERS 501 - 1000 TON SPRING STARTUP (4 CELLS)		1	81.20	
HVAC-11.1	COOLING TOWERS 51 - 500 TON SPRING STARTUP (1 CELL)		1	10.15	
HVAC-11.1	COOLING TOWERS 51 - 500 TON SPRING STARTUP (2 CELLS)		1	20.30	

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~~HVAC-11.1~~	~~COOLING TOWERS 51 - 500 TON SPRING STARTUP (3 CELLS)~~		~~1~~	~~30.45~~	
~~HVAC-11.1~~	~~COOLING TOWERS 51 - 500 TON SPRING STARTUP (4 CELLS)~~		~~1~~	~~40.60~~	
~~HVAC-11.1~~	~~COOLING TOWERS <= 50 TON SPRING STARTUP (1 CELL)~~		~~1~~	~~4.90~~	
~~HVAC-11.1~~	~~COOLING TOWERS <= 50 TON SPRING STARTUP (2 CELLS)~~		~~1~~	~~9.80~~	
~~HVAC-11.1~~	~~COOLING TOWERS <= 50 TON SPRING STARTUP (3 CELLS)~~		~~1~~	~~14.70~~	
~~HVAC-11.1~~	~~COOLING TOWERS <= 50 TON SPRING STARTUP (4 CELLS)~~		~~1~~	~~19.60~~	
~~HVAC-11.1~~	~~COOLING TOWERS > 1000 TON SPRING STARTUP (1 CELL)~~		~~1~~	~~26.95~~	
~~HVAC-11.1~~	~~COOLING TOWERS > 1000 TON SPRING STARTUP (2 CELLS)~~		~~1~~	~~53.90~~	
~~HVAC-11.1~~	~~COOLING TOWERS > 1000 TON SPRING STARTUP (3 CELLS)~~		~~1~~	~~80.85~~	
~~HVAC-11.1~~	~~COOLING TOWERS > 1000 TON SPRING STARTUP (4 CELLS)~~		~~1~~	~~107.80~~	
~~HVAC-11.2~~	~~COOLING TOWERS 501 - 1000 TON FALL SHUTDOWN (1 CELL)~~		~~1~~	~~8.70~~	
~~HVAC-11.2~~	~~COOLING TOWERS 501 - 1000 TON FALL SHUTDOWN (2 CELLS)~~		~~1~~	~~17.40~~	
~~HVAC-11.2~~	~~COOLING TOWERS 501 - 1000 TON FALL SHUTDOWN (3 CELLS)~~		~~1~~	~~26.10~~	
~~HVAC-11.2~~	~~COOLING TOWERS 501 - 1000 TON FALL SHUTDOWN (4 CELLS)~~		~~1~~	~~34.80~~	
~~HVAC-11.2~~	~~COOLING TOWERS 51 - 500 TON FALL SHUTDOWN (1 CELL)~~		~~1~~	~~4.35~~	
~~HVAC-11.2~~	~~COOLING TOWERS 51 - 500 TON FALL SHUTDOWN (2 CELLS)~~		~~1~~	~~8.70~~	
~~HVAC-11.2~~	~~COOLING TOWERS 51 - 500 TON FALL SHUTDOWN (3 CELLS)~~		~~1~~	~~13.05~~	
~~HVAC-11.2~~	~~COOLING TOWERS 51 - 500 TON FALL SHUTDOWN (4 CELLS)~~		~~1~~	~~17.40~~	
~~HVAC-11.2~~	~~COOLING TOWERS <= 50 TON FALL SHUTDOWN (1 CELL)~~		~~1~~	~~2.10~~	
~~HVAC-11.2~~	~~COOLING TOWERS <= 50 TON FALL SHUTDOWN (2 CELLS)~~		~~1~~	~~4.20~~	
~~HVAC-11.2~~	~~COOLING TOWERS <= 50 TON FALL SHUTDOWN (3 CELLS)~~		~~1~~	~~6.30~~	
~~HVAC-11.2~~	~~COOLING TOWERS <= 50 TON FALL SHUTDOWN (4 CELLS)~~		~~1~~	~~8.40~~	
~~TABLE A: HVAC~~					
~~GUIDE NO.~~	**~~TASK DESCRIPTION~~**	**~~QUANTITY~~**	**~~FREQUENCY (per year)~~**	**~~WORK HOURS (per freq)~~**	**~~TOTAL WORK HOURS~~**
~~HVAC-11.2~~	~~COOLING TOWERS > 1000 TON FALL SHUTDOWN (1 CELL)~~		~~1~~	~~11.55~~	
~~HVAC-11.2~~	~~COOLING TOWERS > 1000 TON FALL SHUTDOWN (2 CELLS)~~		~~1~~	~~23.10~~	
~~HVAC-11.2~~	~~COOLING TOWERS > 1000 TON FALL SHUTDOWN (3 CELLS)~~		~~1~~	~~34.65~~	
~~HVAC-~~	~~COOLING TOWERS > 1000 TON FALL~~		~~1~~	~~46.20~~	

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11.2	SHUTDOWN (4 CELLS)					
HVAC-12	FAN, CENTRIFUGAL <7HP		1	1.75		
HVAC-12	FAN, CENTRIFUGAL >=7HP		1	2.75		
HVAC-13	FILTERS, ROLL-TYPE, DISPOSABLE MEDIA		4	1.75		
HVAC-14	CONTROLS AND MECHANISMS ROLL TYPE FILTERS		1	1.50		
HVAC-15	FILTERS, THROW-AWAY		4	0.10		
HVAC-16	FAN, PROPELLER, PEDESTAL AND WALL MOUNTED		1	0.75		
HVAC-17	HEAT/COOLING UNIT, ROOF TOP		2	8.50		
HVAC-18	REFRIGERATION MACHINES, ABSORPTION TYPE <= 40 TONS		1	15.25		
HVAC-18	REFRIGERATION MACHINES, ABSORPTION TYPE 41 - 100 TONS		1	19.25		
HVAC-18	REFRIGERATION MACHINES, ABSORPTION TYPE 101 - 400 TONS		1	23.00		
HVAC-18	REFRIGERATION MACHINES, ABSORPTION TYPE > 400 TONS		1	30.75		
HVAC-19	REFRIGERATION MACHINES (CENTRIFUGAL AND RECIPROCATING) <= 40 TONS		1	23.00		
HVAC-19	REFRIGERATION MACHINES (CENTRIFUGAL AND RECIPROCATING) 41 100 TONS		1	31.00		
HVAC-19	REFRIGERATION MACHINES (CENTRIFUGAL AND RECIPROCATING) 101 350 TONS		1	39.00		
HVAC-19	REFRIGERATION MACHINES (CENTRIFUGAL AND RECIPROCATING) 351 500 TONS		1	59.00		
HVAC-19	REFRIGERATION MACHINES (CENTRIFUGAL AND RECIPROCATING) 501 750 TONS		1	66.00		
HVAC-19	REFRIGERATION MACHINES (CENTRIFUGAL AND RECIPROCATING) 751 1000 TONS		1	77.00		
HVAC-19	REFRIGERATION MACHINES (CENTRIFUGAL AND RECIPROCATING) > 1000 TONS		1	96.00		
HVAC-20	HEATER, ELECTRIC, IN-DUCT		1	0.25		
HVAC-21	HEATER, ELECTRIC, BASEBOARD		1	0.15		
HVAC-22	UNIT HEATERS (STEAM AND HOT WATER)		1	1.00		
HVAC-23	UNIT HEATERS (GAS FIRED)		1	1.50		
HVAC-24	FIRE DAMPERS (IN DUCT)		1	0.20		
HVAC-25	SPLIT SYSTEM EVAPORATOR		1	4		
HVAC-25	SPLIT SYSTEM EVAPORATOR		12	0.5		
HVAC-25	SPLIT SYSTEM CONDENSER		1	4		
	SUBTOTAL					

TABLE B: ELEC

GUIDE NO.	TASK DESCRIPTION	QUANTITY	FREQUENCY (per year)	WORK HOURS (per freq)	TOTAL WORK HOURS
ELEC-1	MOTORS		1	1.00	1

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ELEC-2	BACK-UP GENERATOR- GAS OR NATURAL GAS ENGINES		1	2.00 to 6.00	
ELEC-3	EMERGENCY GENERATORS, DIESEL POWER		1	3.00 to 8.00	
ELEC-4	GENERATORS, ALL OTHER TYPES		12	1.00 to 2.00	
ELEC-5	PANEL, ELECTRICAL (INFRARED SCAN)		1	0.15	
	SUBTOTAL				

TABLE C: PLUM

GUIDE NO.	TASK DESCRIPTION	QUANTITY	FREQUENCY (per year)	WORK HOURS (per freq)	TOTAL WORK HOURS
PLUM-1	FIRE EXTINGUISHER, PORTABLE, STORED-PRESSURE		1	0.10	
PLUM-2	SUMP PUMPS		1	3.75	
PLUM-3	VALVES, REGULATING		1	1.00 to 4.00	
PLUM-4	VALVES, MANUALLY OPERATED (MAIN LINE)		1	1.00	
PLUM-4	VALVES, MANUALLY OPERATED (OTHER VALVES OVER 2 INCHES)		0.2	0.50	
PLUM-5	VALVES, MOTOR OPERATED		1	1.50	
PLUM-6	STEAM TRAPS, ALL TYPES		1	0.50	
PLUM-7	PUMPS, CENTRIFUGAL >=25HP		1	6.00	
PLUM-7	PUMPS, CENTRIFUGAL >5HP AND <25HP		1	4.00	
PLUM-8	ROOF, INSPECTION		2	1.00 to 2.00	
PLUM-9	HOT WATER HEATERS (CONVERTERS)		1	4.50	
PLUM-10	HOT WATER HEATERS, DOMESTIC TYPE		1	1.50	
PLUM-11	FIRE PUMPS, ELECTRIC MOTOR DRIVE		1	0.75	
PLUM-12	FIRE PUMPS, INTERNAL COMBUSTION ENGINE DRIVE		1	0.75 to 1.50	
PLUM-13	DRINKING WATER COOLERS		1	1.00	
PLUM-14	EYEWASH, PLUMBED		1	0.30	
PLUM-15	SHOWERS, EMERGENCY		1	0.30	
PLUM-16	SPRINKLER HEAD (SPRINKLED AREAS) **0.1/1000 sq. ft-Cory**		1		
PLUM-17	FIRE CONTROL VALVE (WATER BASED FIRE SUPPRESSION SYSTEMS) (Weekly-sealed) (Monthly-locked) **0.1/frequency- Cory**				
	SUBTOTAL				

TABLE D: EMS

GUIDE NO.	TASK DESCRIPTION	QUANTITY	FREQUENCY (per year)	WORK HOURS (per freq)	TOTAL WORK HOURS
EMS-5	EMERGENCY GENERATORS		12	1.00 to 2.00	
EMS-6	FIRE ALARM BOXES (MANUAL)		4 to 6	0.10	
	SUBTOTAL				

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TABLE E: MISC

GUIDE NO.	TASK DESCRIPTION	QUANTITY	FREQUENCY (per year)	WORK HOURS (per freq)	TOTAL WORK HOURS
MISC-1	AIR COMPRESSORS		1	1.00	
MISC-2	LAWNMOWERS AND EDGERS		2	1.00	
MISC-3	SWEEPERS (GASOLINE)		2 to 6	2.00	
MISC-4	PAPER BALERS		1	3.00	
MISC-5-1	DOCK DOORS, POWER OPERATED		2	2.00	
MISC-5-2	DOCK DOORS, MANUAL OPERATED		2	1.00	
MISC-6	PEDESTRIAN DOORS, POWER OPERATED MAIN AND DOCK ENTRANCES		4	1.00	
MISC-7	PEDESTRIAN DOORS, NON-POWERED MAIN AND DOCK ENTRANCE		2	1.00	
MISC-8	DOCK LEVELERS, POWERED		4	1.25	
MISC-9	FIRE DOORS, STAIRWELLS AND EXITWAYS (SWINGING)		4	0.10	
MISC-10	FIRE DOORS, SLIDING TYPE		4	0.10	
MISC-11	STATIONARY PACKERS		52	1.00	
MISC-12	STATIONARY PACKERS		12	1.00	
MISC-13	STATIONARY PACKERS		4	2.00	
MISC-14	POWER LIFTS		12	1.00	
MISC-15	SNOW BLOWER, WALKING TYPE		1	1.00	
MISC-16	DOCK LEVELERS, MANUAL		4	0.50	
MISC-17	SWEEPERS (BATTERY)		4 to 12	1.00	
MISC-18	FLOOR SCRUBBERS, AUTOMATIC; VACUUM, BATTERY POWERED		4 to 12	1.00	

TABLE E: MISC

GUIDE NO.	TASK DESCRIPTION	QUANTITY	FREQUENCY (per year)	WORK HOURS (per freq)	TOTAL WORK HOURS
MISC-19	BATTERY, PIV, FLOODED LEAD ACID		2	0.30	
MISC-20	TRAILER RESTRAINTS - QUARTERLY		4	1.00	
MISC-21	TRAILER RESTRAINTS - ANNUAL		1	0.50	
MMO09615	PIVMS VAC (MONTHLY)		12	0.55	
MMO09615	PIVMS VAC (QUARTERLY)		4	0.52	
MMO03718	COMPACTOR, PTR		1	27.89	
MMO03218	COMPRESSED AIR LEAK SURVEY		1	0.00 to 24.00	
MMO16619	HOIST, 5 DAY OPERATION		260	0.15	
MMO16619	HOIST, 6 DAY OPERATION		312	0.15	
MMO16619	HOIST, 7 DAY OPERATION		364	0.15	
MMO16619	HOIST, MONTHLY		12	0.15	

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MMO16619	HOIST, SEMI-ANNUAL (ALL)		2	0.93	
MMO16619	HOIST, SEMI-ANNUAL (PENTHOUSE)		2	0.15	
MMO16619	HOIST, WEEKLY		52	0.15	
	FORKLIFT		1	50.00	
	PALLET TRUCK, MOTORIZED		1	50.00	
	PALLET TRUCK, NON MOTORIZED		1	1.00	
	TOW TRACTOR		1	52.00	
	SUBTOTAL				

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Figure 3-13. PS Form 4896A, Page 6 of 6 – Annual Standard Requirement Building Preventive Maintenance

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