A17 AIR HANDLING UNIT (DIRECT DRIVE)

MAINTENANCE TASK DESCRIPTION:

1. Evaluate filters for replacement.

2. Service the condensate system.

3. Check, clean and inspect the air handling unit.

SPECIAL INSTRUCTIONS:

1. Schedule work with operating personnel.

2. Follow site safety rules for lockout and tagout.

3. Review and follow the manufacturer’s instructions.

4. Record equipment damage or deficiencies.

5. Follow safety and environmental procedures for handling refrigerants (DX units only).

6. Record results in the equipment history log.

PROCEDURES (ANNUAL)

1. Pre-work operational tests with unit operating:

a. Check for unusual noise, vibration or leakage.

b. Perform vibration analysis. Record corrective measures if needed.

c. Perform thermal analysis. Record corrective measures if needed.

2. Stop the unit and service the unit casing and ducting:

a. Clean interior and exterior of unit with wiping cloth and a vacuum.

b. Inspect panels for damage.

c. Check and repair damaged insulation.

d. Check doors, handles, latches and hinges for proper operation.

e. Inspect door gaskets for damage and proper seal.

f. Check soundness of the unit structure.

g. Check, clean, and adjust grills, dampers, vanes, linkages as required.

h. Check damper actuators and linkage for proper operation. Adjust linkage on dampers if out of alignment.

i. Inspect and lubricate mechanical connections of dampers sparingly if necessary.

j. Inspect air hood and air louvers for damage and debris.

k. Inspect bird screens for damage and debris. Remove dead birds.

l. Inspect mist eliminators for damage, dirt and debris.

3. Service the unit fans:

a. Check fan housing, wheel, shaft, frame, and inlet vanes for damage, wear, loose parts, dirt and debris.

b. Check fan blades for dust buildup and clean if necessary.

c. Check fan blades and moving parts for cracks and excessive wear.

d. Check mounting bolts, set screws, etc. for security.

4. Service the coils and fluid systems:

a. Inspect and clean coils if required. Don’t use a pressure washer.

b. Check coils for leaking and adjust tightness of fittings when required. On direct expansion units, check for refrigerant leaks on all lines, valves, fittings, coils, etc. Submit a work order to repair any leaks found.

c. Use fin comb to straighten coil fins. (If required)

d. Flush and clean condensate pans and drains, remove all rust, prepare metal and paint where required. Treat condensate pans with an EPA approved biocide.

e. Ensure condensate drain lines are clear and free running. Service condensate pumps, if equipped.

f. Check and clean strainers.

g. Cycle all water valves two times.

h. Check filters and change if necessary (pre-filters only on chem/bio units).

5. Service the motors:

a. Clean exterior of motor surfaces of soil accumulation.

b. Clean motor ventilation ports.

c. Check condition of extended lubrication lines when present.

d. Evaluate motor bearings and lubricate if necessary. (See manufacturer literature)

e. Check adjustable fan motor base and mounting hardware for loose parts. Tighten as necessary.

f. Check adjustable fan motor base for damage.

g. Check grounding straps for tightness.

h. Check motor insulation resistance. (Do not megger check variable speed drive units.)

6. Perform operational and running checks:

a. Check for unusual noise, vibration or leakage.

b. Check unit sensors for proper readout at the building automation system.

c. Perform vibration and thermal analysis to verify correction of any pre-test problems.

d. Record motor running amps at 100 percent frequency and air loading.

6. Restore unit to service.

7. Clean up work area and remove trash.

TOOLS, MATERIALS, AND EQUIPMENT (ANNUAL):

1. Mechanic’s tool set.

2. Cleaning equipment and materials.

3. Vacuum.

4. Hose and bucket for cleaning strainers.

5. Biocide strips.

6. Lubricants and grease gun (Polyrex EM Grease for motors, silicon lubricant for dampers).

7. Vibration analysis kit.

8. Infrared imager.

9. Refrigerant leak test equipment (Dx Units only)

10. Megger.