

Extended PM Scope of Work Standard

A Detailed Reference for Critical Tasks & Their Operational Impact

Purpose of This Guide

Extended-scope preventive maintenance goes beyond filters and visual inspections. This reference sheet outlines the core tasks that distinguish extended PM from minimal PM and explains the operational and financial impact of each.

This guide is designed to help facility managers:

-] Understand what “deeper” PM actually includes
-] Evaluate vendor proposals more confidently
-] Ensure consistency across multi-site portfolios
-] Connect maintenance depth to real performance outcomes

SECTION 1 - Airflow & Heat Transfer Protection

Coil Cleaning (Condenser & Evaporator)

-] **What It Involves:** Thorough cleaning of condenser and evaporator coils to remove dirt, debris, and buildup that restrict heat transfer.
-] **Why It Matters:** Dirty coils reduce system efficiency by impairing heat exchange. This increases compressor runtime, raises head pressure, and elevates energy consumption.
-] **Operational Benefit:**
 - o Restores design efficiency
 - o Reduces compressor stress
 - o Improves peak season performance

Airflow Verification

-] **What It Involves:** Confirming correct airflow across coils and through duct systems. Includes inspection of dampers, blower performance, and static pressure indicators where applicable.
-] **Why It Matters:** Improper airflow reduces capacity and increases system strain. It can cause overheating, short cycling, and premature compressor failure.
-] **Operational Benefit:**
 - o Stable temperature control
 - o Reduced runtime
 - o Lower mechanical stress

Belt Inspection & Tension Adjustment

-] **What It Involves:** Checking belt condition, alignment, and tension. Adjusting or replacing as needed.
-] **Why It Matters:** Loose or worn belts reduce airflow and strain motors. Misalignment accelerates bearing wear.
-] **Operational Benefit:**
 - o Improved airflow stability
 - o Reduced motor wear
 - o Lower risk of mid-season airflow failures

SECTION 2 - Electrical Integrity & Component Protection

Electrical Connection Tightening

-) **What It Involves:** Inspection and tightening of terminal connections and electrical components.
-) **Why It Matters:** Loose connections increase resistance, generate heat, and accelerate component failure.
-) **Operational Benefit:**
 - o Reduced risk of electrical burnouts
 - o Lower component replacement frequency
 - o Improved reliability

Capacitor & Contactor Inspection

-) **What It Involves:** Testing capacitors for proper microfarad ratings and inspecting contactors for pitting and wear.
-) **Why It Matters:** Weak capacitors and worn contactors are common failure points. They often fail under peak load conditions.
-) **Operational Benefit:**
 - o Lower emergency call frequency
 - o Reduced compressor stress
 - o Improved start-up reliability

SECTION 3 - Refrigeration System Health

Refrigerant Charge Verification

-) **What It Involves:** Measuring system pressures and temperatures to confirm proper refrigerant levels.
-) **Why It Matters:** Undercharged or overcharged systems operate inefficiently and increase compressor wear.
-) **Operational Benefit:**
 - o Restored cooling capacity
 - o Reduced energy waste
 - o Extended compressor life

Pressure & Temperature Monitoring

-) **What It Involves:** Recording suction and discharge pressures, superheat and subcooling measurements where applicable.
-) **Why It Matters:** Trending pressure irregularities often indicate early mechanical or refrigerant issues.
-) **Operational Benefit:**
 - o Early detection of performance drift
 - o Reduced catastrophic failure risk

SECTION 4 - Drainage & Moisture Control

Condensate Drain Inspection & Clearing

-) **What It Involves:** Inspecting and clearing drain lines and pans to prevent blockage.
-) **Why It Matters:** Blocked drains cause water overflow, ceiling damage, and potential mold issues.
-) **Operational Benefit:**
 - o Reduced water damage risk
 - o Lower liability exposure
 - o Improved indoor air quality

SECTION 5 - Performance Verification & Documentation

Temperature Split Verification

-) **What It Involves:** Measuring the difference between return and supply air temperatures.
-) **Why It Matters:** Improper temperature splits indicate airflow problems, refrigerant issues, or coil fouling.
-) **Operational Benefit:**
 - o Clear performance validation
 - o Data-backed maintenance decisions

Amp Draw Comparison to Nameplate

-) **What It Involves:** Comparing measured motor amperage to manufacturer specifications.
-) **Why It Matters:** Elevated amp draw signals stress or mechanical resistance.
-) **Operational Benefit:**
 - o Early stress detection
 - o Reduced component failure probability

SECTION 6 - What Extended PM Is Not

Extended-scope PM is not:

-) A one-time deep clean
-) A replacement for major repairs
-) A guarantee against all failures

It is a structured, recurring process designed to:

-) Preserve efficiency
-) Reduce stress
-) Identify early degradation
-) Stabilize operational performance

Summary

Minimal PM ensures the unit turns on.

Extended PM ensures the unit performs consistently, efficiently, and reliably across its lifecycle.

The difference is not cosmetic - it is operational, financial, and strategic.