

# The Dos and Don'ts of Refrigeration Maintenance

*A practical checklist built around CIMCO's Inspect, Maintain, Replace (IMR) approach. Use it as a starting point and adapt it to your plant, your staff, and your local requirements.*

## 1

### INSPECT

Know what normal looks like, and catch problems while they are still small.

#### ✓ DO

- ✓ Keep a logbook and work through the checklist consistently
- ✓ Show up, look at the equipment, and listen to it. Learn the difference between what good looks like and what a problem looks like.
- ✓ Record the basics every time: equipment runtime, and suction, discharge, and oil pressures on every compressor.
- ✓ Note the correct operating parameters for secondary cooling fluids such as brine or glycol, so you have something to compare against.
- ✓ Mark acceptable ranges on gauges so anyone checking can confirm a reading at a glance.
- ✓ Report anything out of the norm to whoever is responsible, even if fixing it is not your job.
- ✓ For unstaffed sites, arrange regular contractor visits to conduct a thorough inspection.
- ✓ If you are starting with little to go on, ask a contractor, an industry body, or your local authority having jurisdiction to help you build the equipment list and checklist.

#### ✗ DON'T

- ✗ Don't treat the logbook as a box-ticking exercise or mail it in on an easy day.
- ✗ Don't rely on readings without a baseline, because a number means little if you don't know what normal looks like.
- ✗ Don't leave small findings unreported. A squealing belt or water frozen to the roof is cheap to address early and expensive to ignore.
- ✗ Don't open a shell-and-tube chiller on a brine or calcium chloride system just to inspect it, since letting air in creates more problems than it solves.

## 2

## MAINTAIN

A consistent plan, executed on schedule, beats any philosophy applied inconsistently.

### ✓ DO

- ✓ Follow a consistent plan, whether that leans toward running to failure, balancing hours, or over-maintaining. Consistency matters more than the philosophy you choose.
- ✓ Handle small, low-cost tasks on a routine basis. Replacing a pump coupling each season is cheap insurance against a far more expensive emergency call.
- ✓ Stay on serviceable wear items on reciprocating compressors early in life, such as springs, valve rings, and piston rings, and keep up with oil changes.
- ✓ Use scheduled seasonal downtime for maintenance when the plant is already offline and you are not working around normal operations.
- ✓ Account for how the equipment runs. Machines that start and stop often, like a compressor in an ice rink, wear faster than one running continuously in a cold storage plant.
- ✓ Review your maintenance plan once or twice a year and gradually increase the budget as the plant ages.
- ✓ Optimize how you operate the system, since good controls and steady operation reduce wear over the life of the plan.

### ✗ DON'T

- ✗ Don't assume you cannot afford maintenance. Deferring it usually costs more over time and invites big, unplanned bills.
- ✗ Don't over-maintain for its own sake by scheduling far more work than the equipment needs, which wastes money without improving reliability.
- ✗ Don't wait for a \$50 part to fail and turn a routine swap into a costly emergency.
- ✗ Don't ignore rising service costs over time, as they often signal that replacement is warranted.

# 3

## REPLACE

Plan years ahead so end-of-life becomes an opportunity, not an emergency.

### ✓ DO

- ✓ Use industry guidelines, such as those from ASHRAE, as your anchor point for replacement timing, then weigh the actual condition and maintenance history of each component.
- ✓ Plan replacement of shell-and-tube chillers and condensers around the 20-to-25-year mark, since a failure is expensive and a matching unit is rarely on the shelf.
- ✓ Plan two or three years ahead so you have time to consider options rather than defaulting to like-for-like.
- ✓ Use an end-of-life project as the moment to consider energy or refrigerant reduction, future expansion, or efficiency gains, since that is usually when the business case makes sense.
- ✓ Weigh the risks you are managing: the business risk if a component fails and how fast it can be replaced, the operational risk to what the plant supports, and the safety risk. This is the language owners and finance teams respond to.
- ✓ Ask about grants, which frequently support energy improvements, particularly for equipment past the 20-year mark.
- ✓ Consider sizing up where the cost is small. A larger condenser can lower head pressure, and a larger compressor piston at the same horsepower can add capacity while reducing wear.
- ✓ Treat modern controls as part of any upgrade, since they enable features such as floating head pressure control and continuous trending that older devices lack.

### ✗ DON'T

- ✗ Don't wait for an emergency to plan a replacement, because there is no time to improve on what failed when you are replacing it in a rush.
- ✗ Don't assume a failed chiller is a contained problem. It can contaminate the secondary fluid and add disposal, rush, and lost-use costs on top of the repair.
- ✗ Don't overlook lower-profile upgrades like controls just because they are not a five-alarm failure.

## THE BOTTOM LINE

There is no single template that fits every plant. What matters is having a consistent plan across all three stages and following it, so the work gets done before the system forces the issue. Whether you handle it in-house or bring in a contractor, the goal is the same: fewer surprises, longer equipment life, and more confident decisions.

**REQUEST A SERVICE ASSESSMENT ›**

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