

4. Preventive Maintenance of Automatic Controls

Mindset: Be best prepared and be safe.

OBJECTIVES

- Reducing capital repairs
- Reducing unscheduled shutdowns and repairs
- Extending equipment life, thereby extending facility life
- Realizing life-cycle cost savings
- Providing safe, functional systems and facilities that meet the design intent
- Lowering system downtime and better performance
- Fewer safety incidents and/or refrigerant releases
- Managing the equipment service needed on-site in a timely manner
- Periodically leak checking and maintaining proper documentation (including record keeping, repair documentation, demonstrating compliance with local reporting requirements, etc.)
- Documenting PM activities reported through a log or CMMS work order system

DIRECT SYSTEMS

The following maintenance tasks are required to be performed and properly documented.

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| ☐ | Perform weekly leak checks of all temperature sensors. |
| ☐ | Document in daily maintenance log. |
| ☐ | Check refrigerant pressure transducers when used to measure pressures remotely. |
| ☐ | Install leak detection sensors in appropriate locations. |

MEASURES OF SUCCESS

- ✓ Increased equipment uptime
- ✓ Maintained energy efficiency
- ✓ Elimination of unplanned outages
- ✓ Overall O&M cost reductions
- ✓ Reduction in refrigerant loss
- ✓ Comprehensive log of system performance, refrigerant loss, maintenance operations, etc., over time.

INDIRECT SYSTEMS

Perform the following maintenance tasks in addition to those tasks listed for direct systems.

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| ☐ | Meet all requirements for direct systems. |
| ☐ | Check anticorrosion sensors, if needed. |

VRF SYSTEMS

Follow all OEM instructions and safety requirements while performing maintenance tasks.

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| ☐ | Inspect and clean filter weekly. |
| ☐ | Perform general cleaning of temperature sensors heat exchanger quarterly and semiannually. |
| ☐ | Inspect and tighten wires to sensors as needed semiannually. |
| ☐ | Check parameters against the SUDS and note variances. |
| ☐ | Manually check temperatures and flow annually and compare to control readings on the BAS front end. |

For additional guidance and resources, see *Assessing RAC Plant Sustainability*.

