

8. Competencies of Operating and Service Personnel

Mindset: Protect the environment, worker, and community safety in compliance with local requirements.

OBJECTIVE

Achieve sustainable and energy-efficient RAC operation by ensuring operators and servicing personnel have and maintain the necessary core competencies in related technology and support.

FUNDAMENTAL SKILLS

The following competencies are required.

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| ☐ | Demonstrates mechanical aptitude |
| ☐ | Basic understanding of thermodynamics and refrigeration cycles |
| ☐ | Basic understanding of electricity and electrical power distribution |
| ☐ | Understands plant safety practices and procedures |
| ☐ | Basic understanding of sustainability objectives, minimizing environmental footprint, etc. |
| ☐ | Demonstrates ability to prepare, use, and maintain basic tools, materials, instruments, and equipment |
| ☐ | Ability to interpret technical drawing and schematics |
| ☐ | Observes and follows procedures, specifications, and instruction manuals |
| ☐ | Performs measurements and calculations |
| ☐ | Performs basic electrical tasks and benchwork |
| ☐ | Performs housekeeping and safety practices |
| ☐ | Documents work accomplished |

MEASURES OF SUCCESS

- ✓ Lower system downtime and better equipment performance
- ✓ Fewer safety incidents and unintentional refrigerant releases
- ✓ Full redundancy and backup for operating and servicing personnel

SPECIALIZED KNOWLEDGE

The following is a general list of specialized competencies.

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| ☐ | Identify components of an HVAC&R plant including various types of pumping loops, fan curves and operation, Cooling tower and condenser heat rejection systems. |
| ☐ | Execute operating procedures and characteristics of various types of equipment encountered in an HVAC&R installation |
| ☐ | Understand general maintenance requirements and procedures for vapor-compression, absorption, and the accompanying ancillary systems needed to support the plant |
| ☐ | Accurately identify types of vapor compressor system types (centrifugal, scroll, reciprocating, and rotary) |
| ☐ | Uses proper refrigerant handling procedures and/or holds a valid Refrigerant Driving License. |

UNDERSTANDING

The following is a required basic understanding.

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| ☐ | Understands the importance and proper use of personal protective equipment (PPE) |
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For additional guidance and resources, see *Assessing RAC Plant Sustainability*.

