

Strategic Group Interview (SGI) Chart: Residential Energy Technician

The Residential Energy Technician applies the “house as a system” energy efficiency technology to new and retrofit construction.

GENERAL AREAS OF COMPETENCE

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|---|--|--|---|---|---|--|
| A. ACQUIRE GENERAL BUILDING TRADE KNOWLEDGE | A-1 Demonstrate knowledge of basic construction practices. | A-2 Follow OSHA/state/local safety regulations. | A-3 Incorporate applicable general building codes. | A-4 Employ trade terminology. | A-5 Demonstrate knowledge of tools (hand & power). | A-6 Read & interpret building plans. |
| | A-7 Stay current with product knowledge. | | | | | |
| B. ACQUIRE KNOWLEDGE OF BASIC MATH & PHYSICS | B-1 Solve equations. | B-2 Calculate area & volume. | B-3 Create & understand graphs. | B-4 Calculate metric system conversions. | B-5 Control relative humidity. | B-6 Calculate heat transfer. |
| | B-7 Calculate & analyze fluid flows & pressure flows (fluid dynamics). | B-8 Apply energy dynamics theory. | | | | |
| C. PRACTICE GREEN BUILDING PRINCIPLES | C -1 Incorporate tight construction techniques. | C -2 Implement Energy Star choices. | C -3 Select Energy Star appliances. | C -4 Incorporate blower door technology (energy diagnostic tool). | C -5 Size/install high efficiency systems (e.g., HVAC, lighting, plumbing). | C -6 Install energy efficient materials (e.g., windows/doors, thermal protection). |
| | C -7 Plug & seal. | | | | | |
| D. INTEGRATE ENERGY EFFICIENCY INTO BUILDING TRADES | D -1 Integrate “house as a system” concepts. | D -2 Promote & encourage appropriate site management (relationship of house & material to site). | D -3 Incorporate construction waste management. | D -4 Incorporate occupant waste management options. | D -5 Perform & incorporate environmental life cycle cost analysis. | D -6 Utilize renewable energies (e.g., building orientation). |
| | D -7 Minimize embodied energy. | D -8 Incorporate tight construction techniques. | D -9 Select materials with low environmental costs. | D -10 Identify & select water conservation options. | D -11 Practice optimum value engineering (e.g., less wood = more insulation). | |
| E. EVALUATE INDOOR AIR QUALITY | E-1 Educate consumers on indoor air quality. | E-2 Test & mitigate (e.g., for radon, lead, CO, asbestos, moisture, VOC off-gassing). | E-3 Incorporate indoor air quality source reduction techniques. | | | |
| F. PRACTICE EFFECTIVE COMMUNICATION SKILLS | F-1 Perform minimum drafting skills. | F-2 Present & explain pertinent oral & written information. | F-3 Research, organize, analyze, & present information. | F-4 Summarize & document technical information. | F-5 Learn & apply active listening & processing skills. | F-6 Demonstrate basic computer literacy. |
| | F-7 Learn & apply team-building (collaborative) skills. | | | | | |

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