

Chart of Competency

Residential GeoExchange Heat Pump System Installer

Electricity Human Resources Canada is a non-profit organization supporting the human resources needs of the Canadian electricity sector.

Our Vision

Keeping the lights on in Canada by preparing and empowering a world-class workforce for the entire electricity industry.

Our Mission

Working to strengthen the ability of the Canadian electricity industry in meeting current and future needs for their workforce—one that is safety-focused, highly skilled, diverse and productive.

Our Values

We are a values-driven organization, committed to the improvement of our sector, the growth of Canada's economy, and the stability of our power grid. Our core values are:

Collaboration

Working with all stakeholders in Canada's electricity sector for our mutual benefit.

Trust

Forging relationships and products built on unwavering integrity.

Innovation

Leading the industry to be future-ready.

Chart of Competency: Residential GeoExchange Heat Pump System Installer

This Chart outlines the competencies (also known as skills and knowledge) that are performed by Residential GeoExchange Heat Pump System Installers.

Occupational Definition:

Residential GeoExchange Heat Pump System Installers use loops that exchange energy from ponds, lakes, ground, ocean or waste energy sources connected to a heat pump for heating, cooling and dehumidification purposes.

Major Category	Competency Area	Competency Unit					
Construction and Installation	Plan Installation	Organize materials and equipment for installation	Coordinate installation activities	Examine site conditions			
	Install Residential GeoExchange Heat Pump Loop System (Open or Closed)	Install vertical closed-loop system	Install horizontal closed-loop system	Install submerged closed-loop system	Install open-loop system	Install heat pump	Flush, purge and introduce anti-freeze to closed-loop system (excluding DX system)
	Complete Installation Process	Troubleshoot installation issues	Install operation and identification tags				
	Conduct Tests for Commissioning	Conduct tests for residential GeoExchange heat pump installations					
	Commission Equipment and Systems	Perform site cleanup	Demonstrate system to client/end user				
Safety	Maintain a Safe Working Environment	Follow safe work practices	Use personal protective equipment (PPE)	Participate in safety meetings and emergency drills	Isolate component, equipment or system	Perform lock-out tag-out procedures	Handle, transport and store hazardous materials
		Work in confined spaces					
	Maintain a Sustainable Environment	Follow sustainable work practices					
	Respond to Emergencies	Respond to chemical spills and leaks	Respond to non-electrical emergencies	Participate in incident and accident investigations			
Security	Follow Security Practices	Follow security practices for physical work environment					
Organizational Policies and Procedures	Follow Organizational Policies and Procedures	Follow organizational policies and procedures					
Information/Record Management	Complete Information/Record Management Tasks	Maintain technical information and data					
Information and Communication Technology Foundations	Use Digital Technology	Use communication applications	Use common software applications	Use navigation and mapping applications	Use digital mobile radios		
Foundational Trade Skills	Perform Routine Trade Tasks	Use hand and power tools	Use access equipment and work platforms	Operate vehicles and motorized equipment			
Personal Competencies	Demonstrate Professionalism	Work as member of a team	Develop professionally	Demonstrate professional and ethical conduct	Mentor/coach others	Manage stress	Manage time
	Communicate Effectively	Use active listening skills	Use speaking skills	Use hand signals	Use writing skills	Negotiate with internal and external stakeholders	Exchange information with internal and external stakeholders

National Occupational Standards (NOS)

NOS are voluntary guidelines that have been developed to provide businesses, educators, trainers, and job seekers with practical guidance.

How are NOS used?

Employers, employees, and educational institutions can put NOS to a wide variety of uses supporting effective workforce planning:

- Support personnel certification or accreditation programs
- Inform curricula for colleges and apprenticeships.
- Assist recruitment by informing job descriptions and providing a benchmark for employee appraisals.
- Identify career paths in order to promote employee retention.
- Help employers evaluate and determined the competencies of potential employees, including Internationally Trained Workers (ITWs).

Electricity Human Resources Canada has developed National Occupational Standards for a variety of occupations.

Visit electricityhr.ca for more information.