

Rock Valley College

Electrical Safety Work Practices RVC Administrative Procedure (2:20.010)

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A. Purpose

The purpose of this procedure is to establish standardized electrical safety practices designed to protect employees, contractors, and visitors from injuries and illnesses caused by electrical hazards. This procedure ensures compliance with OSHA, NFPA 70E, and other applicable regulations, while promoting a culture of safety across all college operations.

B. Scope

This procedure applies to all employees, faculty, contractors, and other personnel working on or near electrical equipment and systems at Rock Valley College campuses. It covers both energized and de-energized work and applies to qualified and unqualified personnel. **It shall be the practice of Rock Valley College that no employee operates on any live electrical equipment unless determined absolutely necessary and approval has been granted by the appropriate supervisor via an Energized Electrical Work Permit.**

C. Department and Primary Point of Contact Involved

1. Environmental Health & Safety Department (EHS)
Point of Contact: Risk Management Coordinator
Phone: (815) 921-4382
Email: RVC-Risk@rockvalleycollege.edu
2. Plant, Operations, and Maintenance (POM)
Point of Contact: Director of Plant Operations and Maintenance
Phone: (815) 921-430
Email: RVC-FPOM@rockvalleycollege.edu

D. Definitions

Qualified Person: An employee authorized and trained to work on energized electrical systems or equipment.

Unqualified Person: An employee without electrical training; may only

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perform limited tasks under supervision.

Electrically Safe Work Condition: A state where all hazardous electrical energy has been isolated, verified, and eliminated.

High Voltage (RVC definition): Any system operating at over 277 volts.

E. Responsibilities

Management (Supervisors and Administrators):

- Ensure work areas are free from electrical hazards.
- Authorize and document qualified persons to perform electrical work.
- Enforce training, PPE use, and compliance with this procedure.

Employees:

- Complete assigned electrical safety training.
- Follow safe work practices, including Lockout/Tagout (LOTO).
- Use appropriate PPE and immediately report hazards or concerns.

Contractors:

- Ensure compliance with this procedure and local codes.
- Provide documentation of qualifications when performing electrical work.

Environmental Health & Safety (EHS):

- Develop, implement, and maintain this procedure.
- Provide training, program oversight, and permit administration.

F. Procedures

Training Requirements

There are 2 classifications of employees that may work on and around electrical sources:

Unqualified Persons

- An “unqualified person” is any person who has not received specific training regarding electrical hazards involved in the work task and how to avoid the hazards. These employees may take awareness level training that includes information on common electrical hazards and protective measures, including safe work practices for extension cords and ground-fault circuit interrupters (GFCI).

Qualified Persons

- Qualified persons must be designated (i.e. authorized) by their department supervisor to perform work on energized electrical systems or equipment and must attend Electrical Qualified Person training.
- **Note: Electrical Qualified Person training provides information related to live electrical work hazards and selection and use of**

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appropriate personal protective equipment. It is not intended to provide the technical skills and knowledge necessary to work on electrical systems or components, nor does it authorize any person to do so.

- A person can be considered qualified with respect to certain equipment and methods, but unqualified for others.
- **Note: Unqualified persons assisting in energized electrical work must be under the direct supervision of a qualified person for the duration of the exposure. An employee who is undergoing on-the-job training and who, in the course of such training, has demonstrated an ability to perform duties safely at his or her level of training, and who is under the direct supervision of a qualified person shall be considered to be a qualified person for the performance of those duties.**
- At Rock Valley College, there are two levels of electrical qualified persons based upon the scope of work that the person is expected to perform and the risk involved.
 - **Level I**
- Persons who are employed in an electrical position with direct responsibility for servicing/installing/maintaining electrical systems, components, or equipment where a relatively high level of technical knowledge and skill is necessary to perform such tasks, and where there is a relatively high level of risk due to work on energized systems or equipment (operating at 50 volts or more to ground).
 - **Level I qualified persons must:**
- Be trained and knowledgeable of the construction and operation of equipment or a specific work method and be trained to recognize and avoid the electrical hazards that might be present with respect to that equipment or work method.
- Be familiar with the proper use of the special precautionary techniques, personal protective equipment, including arc-flash, insulating and shielding materials, and insulating tools and test equipment.
- Be trained in the skills and techniques necessary to distinguish exposed energized parts from other (non-energized) parts of electrical equipment.
- Be trained in skills and techniques necessary to determine the nominal voltage of exposed live parts by reading drawings, signs, and labels.
- Be trained in the approach distances and the corresponding voltages to which the qualified person will be exposed.
- Be trained in the decision-making process necessary to determine the degree and extent of the hazard and the personal protective equipment and job planning necessary to perform the task safely.
- Department Supervisors must maintain documents that provide evidence of the qualifications of each employee; this must include defined limits on the employees' qualifications. The [Electrical Qualified Person Form](#) may be used.

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- **Level II**
- Persons who are employed in a non-electrical/mechanical position, but who have some degree of risk from energized electrical systems, components, or equipment, or any employee who works on energized equipment which involves either direct contact or contact by means of tools or materials (i.e. voltage testing for diagnostic and troubleshooting purposes). **Typically, the system or equipment is de-energized according to lockout/ Tagout program requirements when servicing, maintenance, installation, or repair work is conducted.** OSHA requires that these employees be trained in appropriate safe work practices and controls if their work brings them close enough to be exposed to parts of electric circuits (operating at 50 volts or more to ground).
 - **Level II qualified persons must:**
 - Be trained and knowledgeable on the proper operation of equipment (e.g. voltage testers, arc welders), or in a specific work method or practice.
 - Be trained to recognize and avoid the electrical hazards that might be present with respect to that equipment or work method.
 - Be trained to select an appropriate voltage detector and shall demonstrate how to use a device to verify the absence of voltage, including interpreting indications provided by the device. This shall include knowledge that enables the employee to understand all the limitations of each specific voltage detector that may be used.
 - Be trained in the approach distances and the corresponding voltages to which the person may be exposed.
 - Supervisors are responsible for addressing any safety concerns employees might have regarding electrical work they have been assigned to perform. Employees who don't feel qualified or adequately trained to perform a specific task should immediately inform their supervisors of the issue. Supervisors will either provide the employee with the necessary training prior to work or remove the employee from the job if another employee is adequately qualified, and timely completion of the work is necessary in order for facilities operations.
 - Retraining will be provided to employees whenever any of the following conditions occur:
 - Supervision or annual inspections indicate that employees are not complying with the safety-related work practices.
 - If new techniques, new types of equipment, or changes in the procedures necessitate the use of safety-related practices that are different from those that the employee would not normally use.
 - If an employee must use ANY work practices that are not normally used during their regular job duties.
 - Training must be documented and refreshed when inspections reveal noncompliance, new equipment/techniques are introduced, or new tasks are assigned.

Qualified Positions at Rock Valley College

The following positions are authorized to work on electrical systems at RVC:

24 volts to 277 volts

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- Commercial Boiler
- HVAC Mechanic I/II/III/IV
- Lead Buildings II/III/IV Maintenance

278 volts to 479 volts

- Commercial Boiler
- HVAC Mechanic III/IV
- Lead Buildings IV Maintenance.

Establishing Electrically Safe Work Conditions

All six steps must be followed before work begins:

1. Identify and document all electrical sources.
2. Disconnect the load current.
3. Visually verify open disconnects or circuit breakers.
4. Apply Lockout/Tagout devices.
5. Test for the absence of voltage using an approved device.
6. Ground conductors where induced or stored energy may exist.

High Voltage Controls

- At Rock Valley College, high voltage is considered anything higher than 277 volts.
- All high-voltage panels must remain locked at all times.
- Keys to high-voltage panels will only be issued to properly trained and authorized personnel.
- RVC employees are not permitted to perform work on panels operating at 480 volts or higher. In these cases:
 - A licensed vendor must be called to perform the work.
 - Authorized RVC personnel may unlock the panel to provide vendor access but will not perform the work.
- This requirement applies to all:
 - Circuit breaker panels
 - Disconnect switches
 - Control panels
 - Any container or enclosure housing high-voltage systems
- Each panel or box must be labeled with:
 - A “High Voltage – Authorized Personnel Only” sticker
 - The specific voltage contained within the panel

Energized Electrical Work

- Only qualified persons may perform work on or near exposed energized systems (>50 volts).
- Energized work is prohibited unless justified and approved through the Energized Electrical Work Permit process.
- Diagnostic and troubleshooting tasks may be performed energized without a permit if no physical alterations are made.

Energized Electrical Work Permit

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- Required for any non-diagnostic energized work.
- Must include:
 - Description of work and equipment.
 - Hazard and flash analysis.
 - Required PPE.
 - Supervisor and Facilities/Engineering approval (based on hazard rating).
- A copy of the permit must be posted at the job site.

Use of Equipment

- Inspect electrical equipment and cords before each use.
- Do not raise/lower equipment by cords.
- Extension cords may only be used temporarily and must not be daisy chained.
- Use GFCIs in conductive work areas.

Personal Protective Equipment (PPE)

- PPE must be selected based on hazard analysis.
- Common PPE includes voltage-rated gloves, FR clothing, safety glasses, face shields, and arc-flash hoods.
- PPE must be maintained, inspected, and replaced as required.

Reporting and Incident Response

- Immediately report damaged equipment, lock failures, or unsafe practices to a supervisor.
- All electrical shocks or injuries must be reported and evaluated.
- Life-threatening emergencies: Call 911.
- Non-life-threatening injuries: Report to OSF RVCare or designated medical provider.

Forms and Attachments

- Electrical Qualified Person Form
- Energized Electrical Work Permit
- Energized Electrical Work Permit Flow Chart

Enforcement

Failure to comply with this procedure may result in disciplinary action, up to and including termination of employment, and/or removal of contractors from campus.

G. Related Documents

OSHA 29 CFR 1910 Subpart S (1910.301–399)

Illinois Department of Labor 820 ILCS 225 Health and Safety Act

NFPA 70E Standard for Electrical Safety in the Workplace

Rock Valley College Environmental Health & Safety (EHS) Procedures

Lockout/Tagout Program

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Reference: Board Report 6616

Implemented: May 26, 2009

Revised: April 8, 2014; October 28, 2025

Appendix A: Electrical Qualified Person Form

Electrical Qualified Person

Name: _____ Date: _____

A qualified person must be trained and familiar with the construction and operation of equipment and must be able to recognize and avoid electrical hazards that might be present. This is a combination of the person's education and experience, on-the-job training for the type of equipment encountered, and safety related information and training regarding hazards and protective equipment.

Level I Electrical Qualified Persons - Indicate the current level of license/education or experience achieved to date.	
Electrical License <input type="checkbox"/> Master Electrician License <input type="checkbox"/> Journeyman Electrician License Granted by: _____ License is: current ___ expired ___	Electrical-Related Education <input type="checkbox"/> Associate's degree (2-year) in an electrical field from a trade/technical school or community college <input type="checkbox"/> Bachelor's degree (4-year) in an electrical engineering Other (specify): _____ <input type="checkbox"/> Electrical experience: ___ years
<input type="checkbox"/> Is trained and knowledgeable of the construction and operation of equipment or a specific work method, and be trained to recognize and avoid the electrical hazards that might be present with respect to that equipment or work method. <input type="checkbox"/> Is familiar with the proper use of the special precautionary techniques, personal protective equipment, including arc-flash, insulating and shielding materials, and insulating tools and test equipment. <input type="checkbox"/> Is trained in the skills and techniques necessary to distinguish exposed energized parts from other (non-energized) parts of electrical equipment. <input type="checkbox"/> Is training in skills and techniques necessary to determine the nominal voltage of exposed live parts by reading drawings, signs, and labels. <input type="checkbox"/> Is trained in the approach distances and the corresponding voltages to which the qualified person will be exposed. <input type="checkbox"/> Is trained in the decision making process necessary to determine the degree and extent of the hazard and the personal protective equipment and job planning necessary to perform the task safely.	
Level II Electrical Qualified Persons – Indicate training and/or information that the employee has been provided relating to electrical work tasks and potential exposures.	
<input type="checkbox"/> Is trained and knowledgeable on the proper operation of equipment (e.g. voltage testers, arc welders), or in a specific work method or practice. <input type="checkbox"/> Is trained to recognize and avoid the electrical hazards that might be present with respect to that equipment or work method. <input type="checkbox"/> Is trained to select an appropriate voltage detector and shall demonstrate how to use a device to verify the absence of voltage, including interpreting indications provided by the device. This shall include knowledge that enables the employee to understand all limitations of each specific voltage detector that may be used. <input type="checkbox"/> Is trained in the approach distances and the corresponding voltages to which the person may be exposed.	
EH&S Safety Training (online training)	
<input type="checkbox"/> Lockout/Tagout <input type="checkbox"/> Electrical Safety	<input type="checkbox"/> Electrical Safety NFPA 70E <input type="checkbox"/> Energized Electrical Work Permit
This employee has attended EH&S training as indicated above and it is current at this time.	
Safety Representative Signature:	
This employee has received on-the-job skills and knowledge and the employee is authorized to work on the systems described on this form. I do not accept liability for their work performance or the conduct of their work in the field.	
Supervisor's Signature:	
I understand that I am expected to have the skills and knowledge indicated above. I agree to discuss any work that is outside of my skills and knowledge with my supervisor or lead person.	
Employee's Signature:	

Appendix B: Energized Electrical Work Permit

ENERGIZED ELECTRICAL WORK PERMIT

Work Order Number _____

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Part I: TO BE COMPLETED BY THE REQUESTOR:

1. Description of circuit/equipment/job location:			
2. Description of work to be done:			
3. Justification of why the circuit/equipment cannot be de-energized or the work deferred until the next scheduled outage:			
Start Date:	Expire Date:	Requestor:	Date:

Part II: TO BE COMPLETED BY THE ELECTRICALLY QUALIFIED PERSONS DOING THE WORK:

1. Detailed job description procedure to be used in performing the above detailed work including hazards, conditions, mechanical, environmental, space obstructions, other voltages:					
2. Description of the Safe Work Practices: <input type="checkbox"/> LOTO <input type="checkbox"/> Two Workers <input type="checkbox"/> Safety Watch <input type="checkbox"/> Notify affected workers Reason not to LOTO _____ Restart Checks Required: _____					
3. Hazard Risk Cat. (1 to 4)		Shock Hazard (max V)		Working Distance	
Flash Boundary		Limited Approach		Gloves Class, minimum	
Incident Energy (cal/cm2)		Restricted Approach			
		Prohibited Approach			
4. Protective Equipment					
<input type="checkbox"/> Natural Fiber Clothing	<input type="checkbox"/> Safety Glasses/Goggles	<input type="checkbox"/> Ear Plugs	<input type="checkbox"/> Leather Shoes		
<input type="checkbox"/> FR Clothing	<input type="checkbox"/> Face Shield	<input type="checkbox"/> Leather Gloves	<input type="checkbox"/> Voltage-rated Shoes		
<input type="checkbox"/> Voltage-rated Tools	<input type="checkbox"/> Balaclava Hood	<input type="checkbox"/> Voltage-rated Gloves	<input type="checkbox"/> Hard Hat		
<input type="checkbox"/> Category III Meter	<input type="checkbox"/> 2-Layer Switching Hood	<input type="checkbox"/> Flash Suit	<input type="checkbox"/> Other		
5. Means employed to restrict the access of unqualified persons from the work area:					
6. Authorized Workers	Department	Authorized Workers	Department	Authorized Workers	Department
7. Evidence of completion of Job Briefing including discussion of any job-related hazards:					
8. Do you agree the above described work can be done safely? <input type="checkbox"/> Yes <input type="checkbox"/> No (if no, return to requestor)					
Electronically Qualified Person: _____			Date: _____		

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Other Side

Part III: APPROVAL(S) TO PERFORM THE WORK WHILE ELECTRONICALLY ENERGIZED:

_____ *(Supervisor authorization only or HRC 0-1)*

Supervisor

Date

Hazard Level 2-4 _____ *or* _____

Director, Facilities Management, Date

Electrical Engineer, Date

POST A COPY OF THE WORK PERMIT AT THE WORKSITE

PART IV: POST-WORK FEEDBACK: _____

Return to: Department of EHS for review and retention. rvc-risk@rockvalleycollege.edu

Appendix C: Energized Electrical Work Permit Flow Chart

Energized Electrical Work Permit Flow Chart

