

Portland Community College – Facilities Management Services

ENERGIZED ELECTRICAL WORK PERMIT AND WORK PLAN

Section 1 - PROJECT INFORMATION

Project _____		Work Request No. _____		Date _____	
Building _____			Room/Location _____		
Equip. Serial No. _____		Name of Equipment _____			
Fed from _____				Drawing No. _____	

Section 2 - HAZARD ANALYSIS

<div style="border: 1px solid black; padding: 2px;">Safety Hazard Review Checklist:</div>	
SAFE ACCESS TO WORKSITE <input type="checkbox"/> Ladder <input type="checkbox"/> Scaffolding <input type="checkbox"/> Roof <input type="checkbox"/> Sewer <input type="checkbox"/> Catwalk/Landing <input type="checkbox"/> Suspended Ceiling <input type="checkbox"/> Pit or Tunnel	
POTENTIAL HAZARDS AND SAFEGUARDS <input type="checkbox"/> Asbestos <input type="checkbox"/> Biological Hazards <input type="checkbox"/> Chemicals <input type="checkbox"/> Compressed Gas <input type="checkbox"/> Confined space or Permit required Confined Spaces <input type="checkbox"/> Electrical Powerline Overhead <input type="checkbox"/> Electrical: damp/wet environment <input type="checkbox"/> Heat/cold stress <input type="checkbox"/> Energized Equipment <input type="checkbox"/> Mechanical <input type="checkbox"/> Hydraulic <input type="checkbox"/> Pneumatic <input type="checkbox"/> Steam <input type="checkbox"/> Excavation, Trenching, Shoring <input type="checkbox"/> Fall Hazards (workplan may be required) <input type="checkbox"/> Fire Hazard <input type="checkbox"/> Lead <input type="checkbox"/> Noise <input type="checkbox"/> Materials handling (forklift, lift, hoist, etc.) <input type="checkbox"/> Overhead Hazard (hard hat) <input type="checkbox"/> PPE <input type="checkbox"/> Ears <input type="checkbox"/> Eyes <input type="checkbox"/> Feet <input type="checkbox"/> Hands <input type="checkbox"/> Head <input type="checkbox"/> Respiratory <input type="checkbox"/> Radiation <input type="checkbox"/> Scaffolding <input type="checkbox"/> Welding/Cutting	
<div style="border: 1px solid black; padding: 2px;">ELECTRICAL ENERGY SOURCES: Check all that apply</div> <input type="checkbox"/> 120 volts <input type="checkbox"/> 277 volts <input type="checkbox"/> Emergency Power <input type="checkbox"/> 208 volts <input type="checkbox"/> 480 volts <input type="checkbox"/> Less than 50 volts (permit may not be required) <input type="checkbox"/> 240 volts <input type="checkbox"/> DC <input type="checkbox"/> Other (describe) _____	

<div style="border: 1px solid black; padding: 2px;">Work To Be Performed (and work practices to be used):</div>

Justification for Energized work

EXEMPTION 1

De-energizing introduces additional or increased hazards. Examples include interruption of life support equipment, deactivation of emergency alarm systems, shutdown of hazardous location ventilation equipment, or removal of illumination for an area.

EXEMPTION 2

De-energizing is infeasible due to equipment design or operational limitations. Examples include testing of electrical circuits that can only be performed with the circuit energized, and work on circuits that form an integral part of a continuous industrial process in a chemical plant that would otherwise need to be completely shutdown in order to permit work on one circuit or piece of equipment.

EXEMPTION 3

Live parts that operate at less than 50V to ground need not be de-energized if there will be no increased exposure to electrical burns or to explosion due to electric arcs.

Explain specifics for this work:

Special Instructions:

Approach Boundaries to Live Parts for Shock Protections (NFPA 70E, Table 130.2 (C))

System Voltage	Limited Approach (fixed circuit parts) Boundary	Restricted Approach Boundary	Prohibited Approach Boundary
<input type="checkbox"/> Less than 50V	not specified	not specified	not specified
<input type="checkbox"/> 50V to 300V	3' 6" *	avoid contact	avoid contact
<input type="checkbox"/> 301V to 750V	3' 6" *	1' 0"	0' 1"
<input type="checkbox"/> 751V to 15 kV	5' 0" *	2' 2"	0' 7"
<input type="checkbox"/> 5.1kV to 35kV	6' 0" *	2' 7"	0' 10"
<input type="checkbox"/> 36.1kV to 46kV	8' 0" *	2' 9"	1' 5"
<input type="checkbox"/> 46.1kV to 72.5kV	8' 0" *	3' 2"	2' 1"
<input type="checkbox"/> 72.6kV to 121kV	8' 0" **	3' 3"	2' 8"
<input type="checkbox"/> 138kV to 145kV	10' 0" ***	3' 7"	3' 1"

* If any conductors are moveable, the limited approach distance is 10'.

** If any conductors are moveable, the limited approach distance is 10' 8".

*** If any conductors are moveable, the limited approach distance is 11' 0".

Multiply single phase voltages by 1.73 to obtain correct voltage level to be used (NFPA 70E C.2.11)

Limited Approach Boundary

Approach limit at a distance from a live part within which a shock hazard exists.

Restricted Approach Boundary

Approach limit at a distance from an exposed live part within which there is an increased risk of shock, due to electrical arc-over, combined with inadvertent movement, for personnel working close to the live part.

Prohibited Approach Boundary

The approach limit at a distance from a live part within which work is considered the same as making contact with the live part.

Flash Hazard Analysis (NFPA 70E.130.3 [A])

Contact Facilities Services Engineering Services to fill out this section if work does not meet the less than 600V or .1 sec. clearing time.

Flash Protection Boundary (check method used to determine boundary)

4' 0" (systems less than 600 volts, with 0.1 second clearing time; I_{bf}<50kA, or 5000 A-sec)

Other (please state the source or attach the work performed to derive the boundary).

Fault Clearing Device (name) _____ Description _____

Manufacturer/Model/Type _____

Clearing time, seconds _____

The person completing this section must complete the Authorization (Section 6)

Hazard/Risk Level Determination

Method Used:

- Available short circuit fault current is less than 10,000 amps. (Identify source of calculated value) _____
- From NFPA 70E Table 130.7(C) (9) (A)
- Other (describe) _____

Hazard/Risk Level: -1 0 1 2 3 4

At distance of: _____

Section 3 - PERSONAL AND OTHER PROTECTIVE EQUIPMENT

Personal Protective Equipment

Use NFPA 70E Table 130.7(C) (10) and check all that apply:

		CAL RATING		CAL RATING
<input type="checkbox"/> Pants	<input type="checkbox"/> FR Long Sleeve Shirt		<input type="checkbox"/> FR Flash Suit Pants	
<input type="checkbox"/> Natural Fiber Clothing	<input type="checkbox"/> FR Pants		<input type="checkbox"/> FR Hard Hat	
<input type="checkbox"/> Eye Protection	<input type="checkbox"/> FR Coverall		<input type="checkbox"/> FR Safety Goggles	
<input type="checkbox"/> T-shirt (short)	<input type="checkbox"/> FR Jacket		<input type="checkbox"/> Arc-rated Face Shield	
<input type="checkbox"/> Long Sleeve Shirt	<input type="checkbox"/> FR Flash Suit Jacket		<input type="checkbox"/> Flash Suit Hood	
<input type="checkbox"/> Hearing Protection	<input type="checkbox"/> Leather Gloves		<input type="checkbox"/> Protective Footwear	

No jewelry or metal objects can be worn or carried in pockets while completing work requiring an energized work permit. This includes wedding rings, necklaces, watches, earrings, keys, coins, pocket knives, etc.

Other Protective Equipment

Insulated tools and equipment required per NFPA 70E Table 130.7(C) (9) (A)

- Insulated Tools
- Fiberglass-Reinforced Plastic Rods
- Rubber Insulating Equipment
- Fuse or Fuse Holding Equipment
- Portable Ladders
- Voltage Rated Plastic Guard Equipment
- Ropes and Hand Lines
- Protective Shields
- Physical or Mechanical Barriers

Section 4 - SITE CONTROL AND SUPPORT

Worksite Control

- Locked Access
- Barrier Tapes, Stanchions
- Other _____
- Electrical Hazard Signs
- Attendant

Worker Support Required

- Safety Watch Required

Means of emergency communication (check all that apply).

- Radio
- Cell Phone
- Phone

Section 5 - WORK SCHEDULE AND PERSONNEL

Schedule

mo. day year mo. day year

Date(s) _____ to _____ Hours _____

mo. day year

Permit Expiration Date _____ (not to exceed one year from start date).

Personnel

Signatures are not required until the work briefing is complete.

QUALIFIED PERSON

Performing Work Safety Watch

Reviewed Hazard Analysis Yes No

Completed Job Briefing Yes No

Agrees to Requirements Yes No

Name (PRINT LEGIBLY) _____

Signature _____

Date _____

QUALIFIED PERSON

Performing Work Safety Watch

Reviewed Hazard Analysis Yes No

Completed Job Briefing Yes No

Agrees to Requirements Yes No

Name (PRINT LEGIBLY) _____

Signature _____ Date _____

SUPERVISOR

Prepared Hazard Analysis Yes No

Completed Job Briefing Yes No

Verified Employees are qualified to do this work Yes No

Name (PRINT LEGIBLY) _____

Signature _____ Date _____

NOTE:

If any unexpected energy is found, or equipment has been modified since the permit was issued, the permit is VOID.

Section 6 - AUTHORIZATION OF ENERGIZED ELECTRICAL WORK PERMIT

FMS Supervisor, Lead or Electrical Engineer

Completed and/or reviewed Flash Hazard Analysis Yes No

Comments:

Name (PRINT LEGIBLY) _____

Signature _____

Date _____

Responsible Supervisor Authorizing Work

Reviewed Flash Hazard Analysis Yes No

Agreed to Justification Yes No

Comments

Name (PRINT LEGIBLY) _____

Signature _____ Date _____

Manager Authorizing Work

Reviewed Flash Hazard Analysis Yes No

Agreed to Justification Yes No

Comments

Name (PRINT LEGIBLY) _____

Signature _____ Date _____