

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

Safety Hazard Review Checklist:

SAFE ACCESS TO WORKSITE

Ladder     Scaffolding     Roof     Sewer     Catwalk/Landing     Suspended Ceiling     Pit or Tunnel

POTENTIAL HAZARDS AND SAFEGUARDS

Asbestos     Biological Hazards     Chemicals     Compressed Gas     Confined space or Permit required Confined Spaces

Electrical Powerline Overhead     Electrical: damp/wet environment     Heat/cold stress

Energized Equipment     Mechanical     Hydraulic     Pneumatic     Steam

Excavation, Trenching, Shoring     Fall Hazards (workplan may be required)     Fire Hazard     Lead     Noise

Materials handling (forklift, lift, hoist, etc.)     Overhead Hazard (hard hat)

PPE

Ears     Eyes     Feet     Hands     Head     Respiratory

Radiation     Scaffolding     Welding/Cutting

ELECTRICAL ENERGY SOURCES: Check all that apply

120 volts     277 volts     Emergency Power  
 208 volts     480 volts     Less than 50 volts (permit may not be required)  
 240 volts     DC     Other (describe)

Work To Be Performed (and work practices to be used):

## 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;  $Ibf < 50kA$ , or  $5000 A\text{-sec}$ )

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 \_\_\_\_\_