**Work Unit Common Electrical Tasks and PPE Requirements –**

**Penn State University common task list**

INSTRUCTIONS AND IMPORTANT NOTES:

1. This is not an all-inclusive list.

2. Copy any of the common tasks onto your work group specific Appendix F if they apply.

3. Penn State University’s EHS Department certifies the following tasks and associated PPE as a hazard assessment.

4. Contact EHS to inquire about having common tasks added to this document.

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| --- | --- | --- | --- | --- |
| **Description of Task** | **Equipment** | **Voltage** | **PPE Category** | **Specific PPE To Be Worn** |
| Remove/install light ballast | Wired Light Ballast | 120 | 1 | **Arc Rated Clothing, Minimum Arc Rating of 4 cal/cm2** * Arc-rated long-sleeve shirt and pants or Arc- rated coveralls
* Arc-rated face shield (see Note 1) or arc flash suit hood
* Arc-rated jacket, parka, high visibility apparel, rainwear or hard hat liner (AN) (see Note 2)

**Protective Equipment*** Hard hat
* Safety glasses or safety goggles
* Hearing protection (ear canal inserts)
* Heavy duty leather gloves with rubber insulating gloves
* Leather footwear (AN)
 |
| 277 | 2 | **Arc Rated Clothing, Minimum Arc Rating of 8 cal/cm2** * Arc-rated long-sleeve shirt and pants or arc-rated coveralls
* Arc-rated flash suit hood or arc-rated face shield (note 1) AND arc-rated balaclava
* Arc-rated jacket, parka, high visibility apparel, rainwear, or hard hat liner (AN) (see Note 2)

**Protective Equipment*** Hard hat
* Safety glasses or safety goggles
* Hearing protection (ear canal inserts)
* Heavy duty leather gloves with rubber insulating gloves
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| Plug-In Light Ballast | 120 or 277 | NA | **No Electrical PPE needed.** |

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| Remove/install wall switch | Wall Switch | 120 | 1 | **Arc Rated Clothing, Minimum Arc Rating of 4 cal/cm2** * Arc-rated long-sleeve shirt and pants or Arc- rated coveralls
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**Protective Equipment*** Hard hat
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**Protective Equipment*** Hard hat
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| Remove/install wall outlet | Wall Outlet | 120 or 208 | 1 | **Arc Rated Clothing, Minimum Arc Rating of 4 cal/cm2** * Arc-rated long-sleeve shirt and pants or Arc- rated coveralls
* Arc-rated face shield (see Note 1) or arc flash suit hood
* Arc-rated jacket, parka, high visibility apparel, rainwear or hard hat liner (AN) (see Note 2)

**Protective Equipment*** Hard hat
* Safety glasses or safety goggles
* Hearing protection (ear canal inserts)
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| Light bulb removal and replacement | Tube-Style Light, Bulb-Style Light | 120 | N/A | **No Electrical PPE needed.** |
| 277 | N/A | **No Electrical PPE needed.** |

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| Light bulb removal and replacement -(parking/parking lot lights)  | Parking Light | 208 | N/A | **No Electrical PPE needed.** |
| 480 | N/A | **No Electrical PPE needed.** |
| Remove/install circuit breaker switch | Circuit Breaker Switch | 120 | 1 | **Arc Rated Clothing, Minimum Arc Rating of 4 cal/cm2** * Arc-rated long-sleeve shirt and pants or Arc- rated coveralls
* Arc-rated face shield (see Note 1) or arc flash suit hood
* Arc-rated jacket, parka, high visibility apparel, rainwear or hard hat liner (AN) (see Note 2)

**Protective Equipment*** Hard hat
* Safety glasses or safety goggles
* Hearing protection (ear canal inserts)
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* Leather footwear (AN)
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|  | 277 or 480 | 2 | **Arc Rated Clothing, Minimum Arc Rating of 8 cal/cm2** * Arc-rated long-sleeve shirt and pants or arc-rated coveralls
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| Connect wires to circuit breakers, transformers, or other components. | Electrical Wire, Breakers, Transformer | 120 or 208 | 1 | **Arc Rated Clothing, Minimum Arc Rating of 4 cal/cm2** * Arc-rated long-sleeve shirt and pants or Arc- rated coveralls
* Arc-rated face shield (see Note 1) or arc flash suit hood
* Arc-rated jacket, parka, high visibility apparel, rainwear or hard hat liner (AN) (see Note 2)

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| Conducting inspections; testing; troubleshooting; making adjustments or repairsby opening hinged door(s) or cover(s) or removal of bolted covers (to expose bare, energized electrical conductors and circuit parts).  | Electrical Systems, Equipment, and Components | 120 or 208 | 1 | **Arc Rated Clothing, Minimum Arc Rating of 4 cal/cm2** * Arc-rated long-sleeve shirt and pants or Arc- rated coveralls
* Arc-rated face shield (see Note 1) or arc flash suit hood
* Arc-rated jacket, parka, high visibility apparel, rainwear or hard hat liner (AN) (see Note 2)

**Protective Equipment*** Hard hat
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| Test electrical systems (voltage testing) | Electrical Wiring, Equipment, and Fixtures | 120 or 208 | 1 | **Arc Rated Clothing, Minimum Arc Rating of 4 cal/cm2** * Arc-rated long-sleeve shirt and pants or Arc- rated coveralls
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* Arc-rated jacket, parka, high visibility apparel, rainwear or hard hat liner (AN) (see Note 2)

**Protective Equipment*** Hard hat
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| Operation of a circuit breaker, disconnect switch (lever/knife style), switch, or starter.  | HVAC units, pumps, drives, lighting, panelboards, etc. | 120/208/277/480 | N/A | **Note: All of the following requirements must be met to satisfy the “no arc flash PPE required” scenario:**1) Covers/panels that enclose the circuit breaker (CB), switch, contactor, or starter are in place, and secure.2) No visual damage to the enclosure of the circuit breaker (CB), switch, contactor, or starter.3) No visual damage to the circuit breaker (CB) switch, switch, contactor, or starter.4) No visual damage to the wires/conduits at entry/exit points to the enclosure.5) No knockouts missing.6) No evidence of water/liquid damage (puddling, rust, chemicals).7) No evidence of heat/fire damage (discoloration).8) No bolts, screws, fasteners missing.9) No exposed live parts of the enclosure (proper blanks used to cover empty circuit breaker locations)* If conditions in 1-9 are found to be satisfactory, a circuit breaker (CB), disconnect (lever/knife switch), switch, contactor, or starter can be used to turn off/on a circuit without PPE.

\*\*\*\*\*\*\*\*\*Resetting a tripped breaker\*\*\*\*\*\*\*\*\** If conditions in 1-9 are found to be satisfactory and circuit breaker operation training has been completed, a tripped circuit breaker can be reset WITHOUT PPE ONLY IF after investigation reveals a probable cause of the trip (overloaded circuit). ADDITIONALLY, the circuit breaker is only permitted to be reset only 1 time.
* A person who has been qualified to troubleshoot an electrical circuit (i.e. electrician) must be notified if the breaker trips a 2nd time.
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AN: As Needed AR: As Required

Notes:

1) Face shields are to have wrap-around guarding to protect not only the face but also the forehead, ears, and neck, or, alternatively, an arc-rated arc flash suit hood is required to be worn.

2) The arc rating of outer layers worn over arc-rated clothing as protection from the elements or for other safety purposes, and that are not used as part of a layered system, shall not be required to be equal to or greater than the estimated incident energy exposure.