

JOB SAFETY ANALYSIS

Safety Information for the University of California, Berkeley

FACILITIES SERVICES

INSTALLATION, ALTERATION, MAINTENANCE, OR REPAIR OF HIGH/LOW VOLTAGE BREAKERS

- Notify personnel using the circuits to be interrupted in order to avoid potential injuries or interruption of research projects.
- Only qualified personnel, according to the Cal/OSHA definition, are permitted to perform these activities.
- Inspect tools and PPE prior to use.

TASK	HAZARDS	CONTROLS
1. Assess the accessibility of the panel	Injuries from the impact of doors adjacent to the panel or from foot/cart traffic	Post warning signs. Set up barriers. Use an assistant.
	Trips or falls	Clear the access to the panel Clean up liquids under the panel. Lay down a non-conductive mat to avoid slippage.
2. Remove the outer cover.	Foot or hand injury from handling the cover	Assistance with the panel cover Plan for the handling of the panel cover.
	Muscle strain	Lift with the legs not the back.
	Shock or electrocution	Watch the edges of the panel and be sure they don't touch the wires in the panel box.
3. Open the dead front.	Shock or electrocution	Visually inspect for condition of wires and other components. Locate the live components using a meter. Wear gloves properly insulated for the load of the panel. Use an insulation floor mat. If possible, reenergize the panel (if de-energized, the job is not "hot panel")
	Shock or electrocution	Watch the edges of the panel and be sure they don't touch the wires in the panel box.

<p>Other Information: Contributors: Senior Superintendent Alan Hand; Associate AFO Director Cliff Marshall; EH&S Specialist Gary Bayne; Senior EH&S Technician Jim Ostlick Created: Month Year JSA Library Number: FS-UTIL-151</p> <p>For more information about this JSA, contact the <i>Office of Environment, Health and Safety</i> at UC Berkeley, 317 University Hall #1150, Berkeley, CA 94720-1150 (510) 642-3073 ● http://www.ehs.berkeley.edu</p> <p><i>The development of Job Safety Analyses is a Balanced Scorecard initiative of the AVC-BAS Safety Committee, sponsored by the Associate Vice Chancellor-Business and Administrative Services (AVC-BAS) and the AVC-BAS Leadership Team ● http://bas.berkeley.edu/balancedscorecard</i></p>	4. Performing operations in the panel while energized	Shock and electrocution	Use the proper PPE in accordance with the supply voltage. Obtain assistance (watch) from a competent person trained in CPR.
		Skin burns	Wear clothing that includes long sleeved shirt, long pants, and gloves, made of materials that do not increase the extent of injury from burning, and a face shield.
		Eye burns and impact injuries from debris ejected during arc discharges	Wear goggles, appropriately darkened.
	5. Reassemble the panel.	All the hazards and controls for the previous tasks exist in reverse order.	Use the planning, engineering, and procedure controls for each of the tasks performed.
		Shock or fire from the panel locks	Watch the position and location of the panel locks to assure they do not catch on a wore or other component while being replaced.
	Required Training: 1. Work techniques and hazards involved in working on energized equipment	Required Personal Protective Equipment (PPE) 1. PPE and tools that meet the provisions of ASTM specifications 2. Gloves 3. Eye protection 4. Face shield 5. Insulated mats 6. Insulated tools	