

# Hot Work Matrix

SECTION 8.6 & APPENDIX 3

Jan-11

HOT WORK CLASS		TEST & TROUBLESHOOT BRANCH CIRCUITRY <b>CLASS 1</b>		ENERGIZED BRANCH CIRCUITRY & TESTING <b>CLASS 2</b>		ENERGIZED PANELS, MCC's & EQUIPMENT <b>CLASS 3</b>		ENERGIZED SWITCHBOARDS / SWITCHGEAR BUSS DUCT <b>CLASS 4</b>		ENERGIZED SWITCHBOARDS / SWITCHGEAR BUSS DUCT <b>CLASS 5</b>		MEDIUM VOLTAGE <b>CLASS 6</b>			
ELECTRICAL EXPOSURES		600V MAX 60 AMP MAX	NO DIRECT TOOL CONTACT WITH LIVE PARTS OTHER THAN A TESTER	600V MAX 60 AMP MAX	"TOOL CONTACT" OR CLOSE PROXIMITY (NOT IN PANELS)	600V MAX 400 AMP MAX	"DIRECT" TOOL CONTACT OR PROXIMITY TO ENERGIZED PARTS	600V MAX 600 AMPS & LARGER	NO DIRECT TOOL CONTACT WITH LIVE PARTS (OTHER THAN A TESTER)	600V MAX 600 AMPS & LARGER	"DIRECT" TOOL CONTACT	OVER 600 VOLTS SWITCHING AND TESTING			
<b>EXAMPLES</b>		<p><b>NOT IN PANELS</b></p> <p><u>Non-disruptive</u> testing &amp; visual inspections or circuits without removing or disconnecting the conductor or device</p> <p><u>Troubleshooting</u> branch circuits</p> <p>Removal of covers, visual inspections and voltage testing in J-boxes, Light fixtures, Switches, Receptacles, Motors, Mechanical Equipment, Time Clocks &amp; Low Voltage Control Panels. Disconnects 600 AMPS &amp; Less</p> <p><b>Testing Meter on known live circuit &amp; Life Safety Check is Class 0. (NOT HOT WORK)</b></p>		<p><b>NOT IN PANELS</b></p> <p><u>Landing</u> the de-energized loadside of an energized disconnecting means</p> <p><u>Disrupting</u> branch circuits while energized</p> <p><u>Branch taps, removal and/or installation</u> of devices on energized branch circuitry:</p> <ul style="list-style-type: none"> <li>Ballasts</li> <li>Light Pole Fuses</li> <li>Photo Cells</li> <li>Receptacles</li> <li>Switches</li> <li>Dimmers &amp; Branch Circuits</li> <li>Starters / Contactors</li> </ul> <p>Removal of wire nuts from energized circuits</p>		<p>ENERGIZED PANELS 400 AMPS OR LESS</p> <p><b>ENERGIZING A NEW SERVICE</b></p> <p><u>Pulling</u> panel covers on energized panels</p> <p><u>Drilling</u> or using a KO punch in energized panels</p> <p><u>Pulling or terminating</u> wire in energized panels</p> <p><u>Adding breakers</u> in energized panels</p> <p><u>Pulling / stabbing</u> Meters, every type</p> <p><u>Removing / adding wires</u> on load side of a meter</p> <p><u>Working in / on</u> energized MCC's, Starters, Transfer Switches, VFD's and Non-utility transformers</p>		<p><b>ENERGIZING A NEW SERVICE</b></p> <p><u>Testing &amp; Troubleshooting</u> in/on energized switchboards, switchgear, or buss duct</p> <p><u>Terminating, pulling or removing</u> feeders in/from switchboards / switchgear</p> <p><b>(NOT ON LIVE PARTS)</b></p> <p><u>Work</u> on buss ducts</p> <p><u>Stabbing</u> buss plugs</p> <p><u>Switching</u> loads</p> <p><i>M* = Mandatory PPE when inserting / removing buckets or circuit breakers w/ doors open or panels removed. Removing bolted covers to expose bare energized parts.</i></p>		<p><u>Tapping</u> live components</p> <p><u>Adding</u> breakers</p> <p><u>Working</u> on the line side of meters</p> <p><u>Drilling / Tapping</u> a buss for connection</p> <p><u>Removing insulation</u> for exposure to connect</p> <p><u>Adding bussing</u> for additional sections or breaker fingers</p> <p><u>Clean &amp; Torque</u> procedures</p> <p><i>M* = Mandatory PPE when inserting / removing buckets or circuit breakers w/ doors open or panels removed. Removing bolted covers to expose bare energized parts.</i></p>		<p><b>NOT TO BE PERFORMED WITHOUT MANAGEMENT APPROVAL</b></p> <p><i>M* = For ALL work over 600 volts and racking in breakers</i></p>			
<b>SAFETY REQUIREMENTS</b>	CALL-IN	O		O		M		M		M		M			
	HW PERMIT / JHA	O		M		M		M		M		M			
	MOP REQUIRED	N/A		N/A		N/A		M		M		M			
	QUALIFIED WORKER AUTHORIZATION	M [PS/ST]		M [PS/ST]		M		M		M		M			
	STAND BY PERSON	O		O		M / M^		M		M		M			
	HARD HAT / SAFETY GLASSES	M		M		M		M		M		M			
	CLASS 0 GLOVES	M		M		M		M		M		N/A			
	CLASS II GLOVES	N/A		N/A		N/A		N/A		N/A		CLASS II GLOVES			
	8 CAL FR SUIT	N/A		N/A		M / 277 / 480 V BRANCH CIRCUITS		N/A		N/A		N/A			
	8 CAL SUIT W/ SOCK	N/A		N/A		M / PANELS & DISCONNECTS		N/A		N/A		N/A			
	25 CAL FR KIT	N/A		N/A		N/A		M / 1,200 AMPS & LESS		M / 1,200 AMPS & LESS		N/A			
	65 CAL FR KIT	N/A		N/A		N/A		M / 1600 AMPS & GREATER		M / 1600 AMPS & GREATER		65 CAL FR SUIT			
MANAGEMENT APPROVAL	Means all direct contact work in Class 6, other than testing & troubleshooting, requires authorization from Chris Lasater, Bill Memory or Troy Brainard. (will require a meeting to review the work)											N/A		M	
<b>LEGEND</b>		M = Mandatory use of item or step				MOP = Written Method of Procedures required				M* = PPE Mandatory by NFPA 70E Standard for certain tasks & voltages					
		M^ = Stand by not required for demand services with call-in				JHA = Written Job Hazard Analysis required				[PS/ST] = Qualified Project Superintendents and Service Techs have authorization to perform Class 1 & 2 hot work					
		O = Optional as determined by the qualified worker's hazard assessment				N/A = Not Applicable				Class O = Testing meter on a known live circuit / life safety check / receptacle check-out (Not Hot Work)					