OMPA Policy & Procedures	Version No.:	2	SECTION CODE:
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	Recommended By:		
	Approved By:		Page 1 of 6
TITLE:	Minimum Approach Distance Policy		

Purpose:

To ensure employee familiarity with Minimum Approach Distance requirements when performing work at any OMPA or member city substation, transmission line or distribution line.

Scope

This policy applies to all OMPA employees working on site at OMPA or member city owned substations, distribution or transmission facilities.

(1.) **Working on or Near Energized Exposed Parts**

A. Only qualified employees may work on or with exposed energized lines or parts of equipment. Only qualified employees may work in areas containing unguarded, uninsulated energized lines or parts of equipment operating at 50 volts or more. Electric lines and equipment shall be considered and treated as energized unless they have been deenergized.

B. At least two employees shall be present while any employee perform the following types of work:

1. Installation, removal, or repair of lines energized at more than 600 volt;

2. Installation, removal, or repair of deenergized lines if an employee is exposed to contact with other parts energized at more than 600 volts;

3. Installation, removal, or repair of equipment, such as transformers, capacitors, and regulators, if an employee is exposed to contact with parts energized at more than 600 volts;

4. Work involving the use of mechanical equipment, other than insulated aerial lifts, near parts energized at more than 600 volts; and

5. Other work that exposes an employee to electrical hazards greater than, or equal to, the electrical hazards posed by operations listed above.

C. The previous does not apply to the following operations:

1. Routine circuit switching, when OMPA can demonstrate that conditions at the site allow safe performance of this work;

2. Work performed with live-line tools when the position of the employee is such that he or she is neither within reach of, nor otherwise exposed to contact with, energized parts; and

3. Emergency repairs to the extent necessary to safeguard the general public.

(2.) **Minimum Approach Distances**

A. OMPA shall establish minimum approach distances no less than the distances computed by Table 1 for ac systems or Table 2 for dc systems. OMPA shall ensure that no employee approaches or takes any conductive object closer to exposed energized parts than OMPA's established minimum approach distance, unless:

1. The employee is insulated from the energized part (rubber insulating gloves or rubber insulating gloves and sleeves worn in accordance to Section 5 constitutes insulation of the employee from the energized part upon which the employee is working provided that the employee has control of the part in a manner sufficient to prevent exposure to uninsulated portions of the employee's body);

2. The energized part is insulated from the employee and from any other conductive object at a different potential; or

3. The employee is insulated from any other exposed conductive object in accordance with the requirements for live-line barehand work.

(3.) **Type of Insulation**

A. When an employee uses rubber insulating gloves as insulation from energized parts, OMPA shall ensure that the employee also uses rubber insulating sleeves. However, an employee need not use rubber insulating sleeves if:

1. Exposed energized parts on which the employee is not working are insulated from the employee; and

2. When installing insulation the employee installs the insulation from a position that does not expose his or her upper arm to contact with other energized parts.

B. When an employee uses rubber insulating gloves or rubber insulating gloves and sleeves as insulation from energized parts, OMPA shall ensure that the employee:

1. Puts on the rubber insulating gloves and sleeves in a position where he or she cannot reach into the minimum approach distance, established by OMPA under Tables 1 & 2; and

2. Does not remove the rubber insulating gloves and sleeves until he or she is in a position where he or she cannot reach into the minimum approach distance, established by OMPA under Tables 1 & 2 of this policy.

(4.) **Working Position**

A. OMPA shall ensure that each employee, to the extent that other safety-related conditions at the worksite permit, works in a position from which a slip or shock will not bring the employee's body into contact with exposed, uninsulated parts energized at a potential different from the employee's. When an employee performs work near exposed parts energized at more than 600 volts, but not more than 72.5 kilovolts, and is not wearing rubber insulating gloves, being protected by insulating equipment covering the energized parts, performing work using live-line tools, or performing live-line barehand work, the employee shall work from a position where he or she cannot reach into the minimum approach distance, established by OMPA under Tables 1 & 2 of this policy.

(5.) **Making connections**

A. OMPA shall ensure that employees make connections as follows:

1. In connecting deenergized equipment or lines to an energized circuit by means of a conducting wire or device, an employee shall first attach the wire to the deenergized part;

2. When disconnecting equipment or lines from an energized circuit by means of a conducting wire or device, an employee shall remove the source end first; and

3. When lines or equipment are connected to or disconnected from energized circuits, an employee shall keep loose conductors away from exposed energized parts.

(6.) ***Conductive articles***

A. When an employee performs work within reaching distance of exposed energized parts of equipment, OMPA shall ensure that the employee removes or renders nonconductive all exposed conductive articles, such as keychains or watch chains, rings, or wrist watches or bands, unless such articles do not increase the hazards associated with contact with the energized parts.

TABLE 1 MINIMUM APPROACH DISTANCES FOR VOLTAGES OF 72.5 KV AND LESS [1]

Nominal voltage (kV) phase-to-phase	Distance			
	Phase-to-ground exposure		Phase-to-phase exposure	
	m	ft	m	ft
0.50 to 0.300 [2]	Avoid Contact		Avoid Contact	
0.301 to 0.750 [2]	0.33	1.09	0.33	1.09
0.751 to 5.0	0.63	2.07	0.63	2.07
5.1 to 15.0	0.65	2.14	0.68	2.24
15.1 to 36.0	0.77	2.53	0.89	2.92
36.1 to 46.0	0.84	2.76	0.98	3.22
46.1 to 72.5	1.00	3.29	1.20	3.94

[1] Employers may use the minimum approach distances in this table provided the worksite is at an elevation of 900 meters (3,000 feet) or less. If employees will be working at elevations greater than 900 meters (3,000 feet) above mean sea level, OMPA shall determine minimum approach distances by multiplying the distances in this table by the correction factor in Table R-5 corresponding to the altitude of the work.

[2] For single-phase systems, use voltage-to-ground.

TABLE 2 MINIMUM APPROACH DISTANCES FOR VOLTAGES OF MORE THAN 72.5 KV [1 2 3]

Voltage range phase to phase (kV)	Phase-to-ground exposure		Phase-to-phase exposure	
	m	ft	m	ft
72.6 to 121.0	1.13	3.71	1.42	4.66
121.1 to 145.0	1.30	4.27	1.64	5.38
145.1 to 169.0	1.46	4.79	1.94	6.36
169.1 to 242.0	2.01	6.59	3.08	10.10
242.1 to 362.0	3.41	11.19	5.52	18.11
362.1 to 420.0	4.25	13.94	6.81	22.34
420.1 to 550.0	5.07	16.63	8.24	27.03
550.1 to 800.0	6.88	22.57	11.38	37.34

[1] Employers may use the minimum approach distances in this table provided the worksite is at an elevation of 900 meters (3,000 feet) or less. If employees will be working at elevations greater than 900 meters (3,000 feet) above mean sea level, OMPA shall determine minimum approach distances by multiplying the distances in this table by the correction factor in Table R-5 corresponding to the altitude of the work.

[2] Employers may use the phase-to-phase minimum approach distances in this table provided

that no insulated tool spans the gap and no large conductive object is in the gap.

[3] The clear live-line tool distance shall equal or exceed the values for the indicated voltage ranges.