# MEMORANDUM OF AGREEMENT USE OF ARC RATED PERSONAL PROTECTIVE EQUIPMENT (PPE) IN 76 MXSG

June 4, 2025

ACCESSIBILITY: This MOA will be available per the Office of Primary

Responsibilities SharePoint site at

https://usaf.dps.mil/sites/TMC719325/Group\_Programs/Safety\_Programs RELEASIBILITY: There are no releasability restrictions on this MOA.

**OPR: 76MXSG/MXDSA** 

Supersedes: Previous MOA, 7 May 2019

### 1. PURPOSE

This Memorandum of Agreement (MOA) establishes the agreement between the American Federation of Government Employees (AFGE) Local 916 and the 76th Maintenance Support Group (MXSG) regarding the use of arc-rated Personal Protective Equipment (PPE) by bargaining unit members within the 76 MXSG, as it applies to the Master Labor Agreement between both parties.

### 2. BACKGROUND

This MOA aims to enhance employee safety and ensure compliance with Unified Facilities Criteria (UFC) 3-560-01 by requiring appropriate arc-rated PPE for employees working on or near energized electrical equipment operating at 50 volts or higher. The guidelines outlined in UFC 3-560-01 (24 July 2017, change 3, 15 May 2023) Table 4-1 will serve as a safety precaution for all personnel potentially exposed to an arc flash hazard. This MOA will be reviewed annually and maintained by the Hazardous Energy Control (HEC) Program Manager. It shall be distributed with the HEC written program to ensure employees are provided the appropriate PPE for the tasks they perform.

### 3. PPE PROVISION

The 76 MXSG will provide the following arc-rated PPE to employees based on their job duties:

- a. Clothing: Five (5) sets of arc-rated long-sleeve shirts and pants (or arc-rated coveralls) with a minimum arc rating of 8 cal/cm2 (33.47 J/cm2) will be issued to each employee. Additional guidance regarding undergarments and additional layers to meet NFPA 70E and UFC 3-560-01 safety standards will be available in the Quick Reference Attachment. Space has been allocated for employees to try on provided arc-rated clothing for fitting purposes. Should the employee be required to obtain arc-rated clothing off the installation, the employee will be provided two hours administrative time to do so, with no charge to the employee's leave.
- b. **Footwear:** All future safety shoes issued to employees requiring arc-rated PPE will be electrically hazard rated (EH) in accordance with NFPA 70E standards. Safety shoe purchases will align with the guidelines stipulated in the MEMORANDUM OF AGREEMENT (MOA) CONCERNING COMMERCIAL SAFETY SHOE PURCHASE OPTION. Further details are available in the Quick Reference Attachment.

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- c. **Gloves:** Two sets of gloves will be issued one for immediate use by the employee and one stored at the 9001 MXDPP facility for bi-annual testing to always ensure a readily available set of compliant gloves.
- d. **Head and Face Protection:** A face shield and balaclava meeting arc-rated category (2) PPE requirements will be provided. Additionally, employees will be issued safety glasses (ANSI Z87.1) with side shields or safety goggles (ANSI Z87.1), a hardhat (ISEA Z89.1 Type 1 Class E approved), and hearing protection with ear-canal inserts for use within the arc flash boundary.

### 4. MANDATORY DAILY WEAR REQUIREMENTS

The following employees are required to report to work wearing the provided MXSG arcrated clothing every workday to comply with UFC 35-560-01, 4-1.3 Minimum PPE Clothing Requirements:

- i. Electricians (Series 2805)
- ii. Air Conditioning Equipment Mechanics (Series 5306)
- iii. Electronic Measurement Equipment Mechanics (Series 2602) personnel assigned to 76MXSS MXDCAAB and MXDKMB
- iv. Electronic Industrial Controls Mechanics (Series 2606)
- v. PdM Technicians specializing in motor analysis and infrared (Series 0802)

Supervisors will perform a visual inspection before employees leave for a job site to verify compliance.

### 5. JOB-SPECIFIC WEAR REQUIREMENTS

The following employees are required to don the provided arc-rated clothing/PPE before entering an arc flash boundary:

- i. PMEL Calibration Technicians
- ii. Electronics Control Technicians
- iii. All other Mechanics and PdM Technicians
- iv. Facility Managers within MXDE
- v. All Electrical and Mechanical Engineers and Technicians within MXDE
- vi. All Work Leaders of employees listed in Section 4
- vii. All Supervisors of employees listed in Section 4

Each employee in this category will receive one set of arc-rated coveralls from MXSG to comply with UFC 3-560-01, 4-1.4 Job-Site PPE Clothing Requirements.

### 6. PPE MAINTENANCE, REPLACEMENT, AND TRAINING

a. **Inspection:** Employees are responsible for inspecting their PPE for damage before each use. Employees will report any findings that render the clothing unusable to the supervisor immediately. The supervisor will assist the employees with getting the items replaced. Guidance for inspection can be found under RECOMMENDED CARE INSTRUCTIONS in the Quick Reference guide attachment.

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- b. **Laundering:** Employees are responsible for laundering their assigned arc-rated clothing per the manufacturer's instructions on the clothing tags. General care guidance will be provided to the employee upon receipt of the clothing. Supervisors and employees will review the manufacturer's instructions as well as the guidance then sign a provided AF Form 3126 to acknowledge the employee has received a review of the information.
- c. **Replacement:** A one-for-one replacement policy will be implemented for soiled, damaged, worn, or torn clothing. Employees must surrender the damaged/worn PPE item to the supervisor before receiving a replacement. Supervisors will initiate a purchase request (PR) upon confirming the damage reported.
- d. **Training:** Annual training in accordance with OSHA 29 CFR 1910.132(f)(1)(v) will be provided, covering proper care, maintenance, useful life, and disposal. Acknowledgment of these requirements will be documented and maintained in the appropriate record system. Instruction available in Quick Reference Attachment.

### 7. EFFECTIVE DATE

This MOA will become effective upon signature by both parties and will be reviewed annually.

Kristopher Camil, DAF	CLINTON C. GILL, DAF
UNION REPRESENTATIVE	76 MXSG/CL

**Attachment:** 

76 MXSG Arc Rated PPE Quick Reference Guide

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### **Attachment 1: 76 MXSG Arc Rated PPE Quick Reference Guide**

**Table 4-1. NFPA 70E PPE Criteria – Category Method** 

1	Arc-Rated Clothing, Minimum Arc Rating of 4 cal/cm2 (see Note 1)
(≤4 cal/cm2)	Arc-rated long-sleeve shirt and pants or arc-rated coverall
( <u>\$4</u> cai/cm2)	Arc-rated face shield (see Note 2) or arc flash suit hood
	Arc-rated face shield (see Note 2) of arc flash suit flood Arc-rated jacket, parka, rainwear, or hard hat liner (AN)
	Protective Equipment
	Hard hat (AR)
	Safety glasses or safety goggles (SR)
	Hearing protection (ear canal inserts) \2\ (see Note 3) /2/
	Heavy duty leather gloves (see Note 4)
	Leather footwear (AN)
<u>Z</u>	Arc-Rated Clothing, Minimum Arc Rating of 8 cal/cm2
(≤8 cal/cm2)	Arc-rated long-sleeve shirt and pants or arc-rated coverall
	Arc-rated flash suit hood or arc-rated face shield (see Note 2) and arc-rated balaclava
	Arc-rated jacket, parka, rainwear, or hard hat liner (AN)
	Protective Equipment
	Hard hat (AR)
	Safety glasses or safety goggles (SR)
	Hearing protection (ear canal inserts) \2\ (see Note 3) /2/
	Heavy duty leather gloves (see Note 4)
	Leather footwear
3	Arc-Rated Clothing Selected so That the System Arc Rating Meets the Required
(≤25 cal/cm2)	Minimum Arc Rating of 25 cal/cm2
	Arc-rated long-sleeve shirt (AR)
	Arc-rated pants (AR)
	Arc-rated coverall (AR)
	Arc-rated arc flash suit jacket (AR)
	Arc-rated arc flash suit pants (AR)
	Arc-rated arc flash suit hood
	Arc-rated gloves \2\ (see Note 4) /2/
	Arc-rated jacket, parka, rainwear, or hard hat liner (AN)
	Protective Equipment
	Hard hat
	Safety glasses or safety goggles (SR)
	Hearing protection (ear canal inserts) \2\ (see Note 3) /2/
	Leather footwear
4	Arc-Rated Clothing Selected so That the System Arc Rating Meets the Required
(≤40 cal/cm2)	Minimum Arc Rating of 40 cal/cm2
	Arc-rated long-sleeve shirt (AR)
	Arc-rated pants (AR)
	Arc-rated coverall (AR)
	Arc-rated arc flash suit jacket (AR)
	Arc-rated arc flash suit pants (AR)
	Arc-rated arc flash suit hood
	Arc-rated gloves \2\ (see Note 4) /2/
	Arc-rated jacket, parka, rainwear, or hard hat liner (AN)
	Protective Equipment
	Hard hat
	Safety glasses or safety goggles (SR)
	Hearing protection (ear canal inserts) \2\ (see Note 3) /2/
	Leather footwear
	1 =

AN: as needed (optional). AR: as required. SR: selection required.

### Notes:

- 1. Refer to Table 4-3 for minimum PPE clothing requirements.
- 2. Face shields are to have wrap-around guarding to protect not only the face but also the forehead, ears, and neck. Use an arc-rated balaclava with an arc-rated face shield when the back of the head is within the arc flash boundary. As an alternative, an arc-rated arc flash suit hood can be worn instead of an arc-rated face shield and balaclava.
- 3. \2\ Other types of hearing protection are permitted to be used in lieu of or in addition to ear canal inserts provided they are worn under an arc-rated arc flash suit hood. /2/
- 4. If rubber insulating gloves with leather protectors are used, additional leather or arc-rated gloves are not required. The combination of rubber insulating gloves with leather protectors satisfies the arc flash protection requirement.

Safety Shoes- Guidance from MEMORANDUM OF AGREEMENT (MOA) CONCERNING COMMERCIAL SAFETY SHOE PURCHASE OPTION (Copy available for reference on SharePoint @ MOA Concerning Comercial Safety Shoe Purchase Option 2002.pdf)

- 1. Authorized employees working in safety shoe designated areas have three options for obtaining safety shoes:
  - a. Custom orthopedic safety shoes will be paid in full by the government for valid and appropriate medical reasons in accordance with applicable regulations.
    - *NOTE:* Tinker is not responsible for the payment of medical appointments to obtain documentation for custom shoes.
  - b. Standard government issued safety shoes from Base Supply's Individual Equipment Element (IEE) at no cost to the employee.
  - c. Safety shoes from an approved commercial source; with the employer paying the vendor no more than \$166.10 (March 2025). The employee will be responsible for paying the difference at the time of the purchase, if the cost of the shoe exceeds the current rate as stated. Annual cost adjustments for purchasing safety shoes will be included and will be based upon inflation factors from Air Staff/HQ AFMC for commodities.
- 2. Employees will be authorized two hours of administrative leave in order to purchase approved commercial safety shoes from an approved off-base vendor.
- 3. Supervisors will ensure that individual employees safety shoes are unserviceable prior to approving a request for replacement issue.

## 4-1.3 Minimum PPE Clothing Requirements. (UFC 3-560-01 24 July 2017 Change 3, 15 May 2023)

Any worker whose normal job includes working on or near exposed electrical equipment must wear to work as a minimum:

- Arc-rated shirt (long-sleeve) and pants (or arc-rated coveralls) with minimum arc rating of 8 cal/cm2 (33.47 J/cm2).
- Cotton or natural fiber underwear (conventional short sleeve t-shirt and briefs/shorts). Do not include any organizational or other insignias or decals on t-shirts.

### 4-1.4 Job-Site PPE Clothing Requirements. (UFC 3-560-01 24 July 2017 Change 3, 15 May 2023)

Any employee who goes to a job site that involves working on or near exposed electrical equipment must wear all of the following (with the exception of gloves which will be dictated by the work task in Table 4-2) as a minimum:

- <u>Arc-rated shirt (long-sleeve) and pants</u> (or arc-rated coveralls) with minimum arc rating of 8 cal/cm2 (33.47 J/cm2).
- <u>Cotton or natural fiber underwear</u> (conventional short sleeve t-shirt and briefs/shorts). Do not include any organizational or other insignias or decals on t-shirts.
- Electrical hazard rated (EH) footwear. Note: High voltage linemen are not required to wear EH footwear while climbing. \3\ Per 70E, Table 130.5(G), footnote d, footwear other than leather or dielectric shall be permitted to be used, provided it has been tested to demonstrate no ignition, melting, or dripping at the estimated incident energy exposure. /3/
- <u>Safety glasses</u> (ANSI Z87.1) with side shields. Wear safety goggles (ANSI Z87.1) over metal frame and non-safety glasses.
- <u>Hardhat</u> (ISEA Z89.1 Type 1 Class E approved). Long hair must be secured under the hardhat. For cold weather operations, insulated hard hat liner must be arc rated. For work tasks classified as Category 2 or higher, an insulated hard hat liner does not satisfy the requirement for a sock/balaclava worn under the face shield.
- <u>Wear leather work gloves</u> for work tasks classified as Category 1 or 2. Wear arc-rated gloves for work tasks classified as Category 3 or 4. Voltage rated gloves with leather protectors are equivalent to arc-rated gloves. Rubber glove protectors must not be used as work gloves.
- <u>Hearing protection</u> using ear-canal inserts is required whenever working within the arc flash boundary. Hearing protection is also required in accordance with local procedures and whenever the sound level exceeds 84 decibels or 140 decibels peak sound level pressure for impulse or impact noise, regardless of the exposure duration. Wear a combination of insert type and circumaural types of hearing protectors (double protection) when sound levels exceed 104 db(A).

Note: MXSG has two category 4 Arc Flash suits available for use for jobs that require a higher level of protection. Contact Vickie Dearing, (<u>vickie.dearing@us.af.mil</u>), 405-852-4421 for more information.

### 4-1.7 Additional PPE Clothing Requirements. (UFC 3-560-01 24 July 2017 Change 3, 15 May 2023)

Wear arc flash rated clothing properly inside the arc flash boundary. This includes:

- Long sleeves must be rolled down and buttoned.
- The top button of shirts, coveralls, and jackets must be fastened.
- Tuck shirts into the trousers.
- Shorts are prohibited, and trousers must extend the full length of the leg.
- Garments with exposed metallic fasteners must not be worn, unless the garments are properly arc rated.
- Garments, including safety harnesses, worn over arc flash rated protective clothing must be arc flash rated.

### 4-1.8 Clothing Prohibitions. (UFC 3-560-01 24 July 2017 Change 3, 15 May 2023)

### The following is prohibited:

- Do not wear conductive articles of jewelry (including but not limited to cloth with conductive thread, metal frame glasses, metal headgear, wristbands, watch chains, rings, bracelets, necklaces, body jewelry and piercings) within the restricted approach boundary or where they present an electrical contact hazard with exposed energized electrical conductors or circuit parts.
- Do not wear clothing that could increase the extent of injuries when exposed to electric arcs or open flames. Clothing made from acetate, nylon, polyester, and rayon, either alone or in blends, cannot be worn as undergarments when working on or near energized equipment of greater than 50 V. Military clothing such as DCUs, field jackets, field jacket liners, Gore-Tex jackets and pants, Gore-Tex fleece liners, nylon cold weather gloves, nylon upper combat boots, chemical warfare suits, winter parkas, winter parka pants, all are polyester blend materials and not allowed to be worn when working on or near energized equipment of greater than 50 V. Shorts are prohibited and trousers must extend the full length of the leg.
- Do not wear anything made of celluloid or other flammable plastic when working near electric arcs or open flames. This may include cap visors, collars, and cuff protectors.
- Do not wear loose clothing, dangling sleeves, or neckties when working on or near moving machinery.
- Do not wear garments equipped with metal slides or zipper fasteners unless the slide or fastener is effectively covered.
- Do not wear coveralls half-dressed where the top-half is wrapped around the waist area.
- Do not wear clothing in a way in which it was unintended to be worn, such as an arc-rated shirt tied around waist with sleeves.

### 1910.132 - General requirements.

1910.132(e)

**Defective and damaged equipment.** Defective or damaged personal protective equipment shall not be used.

1910.132(f)(1)(v)

Training.

The employer shall provide training to each employee who is required by this section to use PPE. Each such employee shall be trained to know at least the following:

• Proper care, maintenance, useful life and disposal of the PPE.

When the employer has reason to believe that any affected employee who has already been trained does not have the understanding and skill required by paragraph (f)(2) of this section, the employer shall retrain each such employee. Circumstances where retraining is required include, but are not limited to, situations where:

- Changes in the workplace render previous training obsolete; or
- Changes in the types of PPE to be used render previous training obsolete; or
- Inadequacies in an affected employee's knowledge or use of assigned PPE indicate that the employee has not retained the requisite understanding or skill.

### RECOMMENDED CARE INSTRUCTIONS

### Follow manufacturers care instructions on each clothing items.

- Wash separately: Wash AR/FR clothing separately from other clothing.
- Use a typical detergent: Use a typical home laundry detergent. Avoid soap with animal fats, hydrogen peroxide, and liquid non-chlorine bleach.
- Turn inside out: Turn the garment inside out before washing to reduce streaking.
- Use a normal or cotton cycle: Use a normal or cotton cycle at a water temperature up to 140°F (60°C).
- Avoid additives: Avoid starch, fabric softeners, and other laundry additives.
- Wash new garments first: It's recommended to wash new garments before wearing them.
- Tumble dry: Tumble dry on low or permanent press, or the "less dry" setting. Avoid over drying, which can cause excessive shrinkage.
- Replace when worn out: Retire AR/FR garments when they show wear indicators like holes, fraying, or permanent stains.

These instructions will be provided with the purchase receipt. Supervisors will receive the order and will meet with the employee to verify the order is correct and review the care instructions for the clothing received. An AF Form 3126 will be signed and maintained to acknowledge that the employee has been informed, and we have fulfilled the training requirement.

	FR CLOTHING ISSUE 12/11/2024  REQUESTER NAME: JEFFREY WREN				RECOMMENDED CARE INSTRUCTIONS		
	REQUESTER NAME:				Follow manufacturers care instructions on each clothing item.		
	SUPERVISOR / WL:		ROGER LYON		Wash separately: Wash AR/FR clothing separately from other clothing.		
LINE	PART NUMBER	ITEM NUMBER	QUANTITY	BIN LOCATION	Use a typical detergent: Use a typical home laundry detergent. Avoid soap with animal fats, hydrogen peroxide, and liquid non-chlorine bleach.		
1	PPE-FRP-34X34	34C774	5	OFCT02B02	Turn inside out: Turn the garment inside out before washing to reduce streaking.		
2					Use a normal or cotton cycle: Use a normal or cotton cycle at a water temperature up to 140°F (60°C).		
3					Avoid additives: Avoid starch, fabric softeners, and other laundry additives.		
4					Wash new garments first: It's recommended to wash new garments before wearing them.		
5					Tumble dry: Tumble dry on low or permanent press, or the "less dry" setting. Avoid overdrying, which can cause excessive shrinkage.		
6					Replace when worn out: Retire FR garments when they show wear indicators like holes, fraying, or permanent stains.		
7					stains.		
	RECEIVED BY:				SIGN RECEIPT AND ATTACHED 1151 - RETURN TO 76 MXSG/MXDPP		
	SIGNATURE*				SIGN RECEIPT AND ATTACHED 1151 - RETURN TO 76 MASG/MADPP		
	PRINT NAME						
	DATE:						
	* BY SIGNING THIS RECEIPT, THE RECIPIENT UNDERSTANDS AND WILL COMPLY WITH CARE INSTRUCTIONS SET FORTH BY THE MANUFACTURER. SEE REVERSE FOR RECOMMENDED CARE INSTRUCTONS.						

Defective, damaged, or soiled arc-rated clothing should be immediately removed from service and replaced to maintain adequate protection against electrical hazards.

Signs of Damage or Defect:

- <u>Physical Damage</u>: Rips, tears, holes, thin or threadbare areas, excessive wear and abrasion, especially in joints, broken closures (zippers, buttons), and frayed seams.
- <u>Functional Issues</u>: Elements that no longer function, like zippers or buttons.
- <u>Significant Alterations</u>: Garments with alterations not in the original design.
- Uncomfortable Fit: Garments that are uncomfortable or don't fit properly.
- <u>Soiling and Contamination</u>: Stains or spots that can't be removed through cleaning or soiling with flammable contaminants.
- Embedded Objects: Any embedded objects.
- Exposure to Thermal Events: Garments exposed to flash fires or arc flash incidents, as their flame-resistant properties may be compromised.
- Brittle or Stiff Material: Garments washed with starch
- <u>Discoloration</u>: Garment may have been washed with Chlorinated bleach

### When to Replace:

• Replace:

If a garment is severely damaged or has been exposed to a flash fire or arc flash, it should be replaced to maintain safety standards.

• Consult Manufacturer:

Industry standards and best practices suggest a garment be retired from use after 5 years regardless of condition.

• Proper Disposal:

Retired FR garments should be disposed of in a manner that prevents their reuse.

### **General Recommendation of Lifespan:**

While manufacturers don't typically put a specific lifespan on arc-rated clothing, industry standards and best practices suggest replacing them after 5 years or sooner, depending on usage and condition, with regular inspection and adherence to manufacturer guidelines being crucial.

### **Factors Affecting Lifespan:**

- <u>Frequency of Use</u>: Clothing worn daily or for extended periods may need replacement before the 5-year mark. Frequent use and laundering can cause the fabric to degrade faster.
- <u>Material:</u> The type of fabric used in the clothing can affect its lifespan. FR 100% Cotton can last approximately 12 to 16 months, FR 88/12 Cotton-Nylon Blends can last approximately 18 to 30 months, and FR Synthetic Blends can last anywhere from approximately 2-1/2 to 4 years.
- <u>Care and Maintenance</u>: Proper storage and adherence to manufacturer's care instructions are crucial for extending the life of arc-rated clothing.
- <u>Inspection</u>: Regularly inspect the clothing for signs of wear, damage, or contamination (like fraying, holes, discoloration, or exposure to chemicals) indicate the need for replacement.

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Table 4-7. Arc Flash PPE Category Classifications for Direct Current (DC) Systems (UFC 3-560-01 24 July 2017 Change 3, 15 May 2023)

Equipment	Arc Flash PPE Category	Arc Flash Boundary
Storage batteries, dc switchboards, and other dc supply sources		
Parameters: $100 \text{ V} \leq \text{Voltage} \leq 250 \text{ V}$		
Maximum arc duration and working distance: 2 sec @ 455 mm (18 in.)		
Available fault current < 4 kA	2	900 mm (3 ft)
4 kA ≤ Available fault current < 7 kA	2	1.2 m (4 ft)
7 kA ≤ Available fault current < 15 kA	3	1.8 m (6 ft)
Storage batteries, dc switchboards, and other dc supply sources Parameters: $250 \text{ V} < \text{Voltage} \le 600 \text{ V}$ Maximum arc duration and minimum working distance: $2 \text{ sec } @ 455 \text{ mm} (18 \text{ in.})$		
Available fault/ current < 1.5 kA	2	900 mm (3 ft)
1.5 kA ≤ Available fault current < 3 kA	2	1.2 m (4 ft)
3 kA ≤ Available fault current < 7 kA	3	1.8 m (6 ft)
7 kA ≤ Available fault current < 10 kA	4	2.5 m (8 ft)

/3/

Note 1. Refer to NFPA 70E for additional limitations regarding the use of the above table.

Note 2. Obtain the available short circuit current for a particular battery from the manufacturer or the manufacturer's manual for the battery. If this information is not available, estimate the available short circuit current for a lead acid battery from the battery performance data sheet as 10 times the 1-minute ampere capability of the cell (at 77°F (25°C) to 1.75 V per cell).

Table 4-6. Arc Flash PPE Category Classifications for Alternating Current (AC) Systems on Grade (UFC 3-560-01 24 July 2017 Change 3, 15 May 2023)

Equipment	Arc Flash PPE Category	Arc Flash Boundary
Panelboards or other equipment rated 240 V and below. Parameters: Maximum of 25 kA short-circuit current available; maximum of 0.03 sec. (2 cycles) fault clearing time; minimum working distance 455 mm (18 in.).	1	19 in (485 mm)
Panelboards or other equipment rated >240 V and up to 600 V. Parameters: Maximum of 25 kA short-circuit current available; maximum of 0.03 sec. (2 cycles) fault clearing time; minimum working distance 455 mm (18 in.).	2	3 ft (900 mm)
600-V class motor control centers (MCCs). Parameters: Maximum of 65 kA short-circuit current available; maximum of 0.03 sec. (2 cycles) fault clearing time; minimum working distance 455 mm (18 in.)	2	5 ft (1.5 m)
600-V class motor control centers (MCCs). Parameters: Maximum of 42 kA short-circuit current available; maximum of 0.33 sec. (20 cycles) fault clearing time; minimum working distance 455 mm (18 in.)	4	14 ft (4.3 m)
600-V class switchgear (with power circuit breakers or fused switches) and 600 V class switchboards.  Parameters: Maximum of 35 kA short-circuit current available; maximum of up to 0.5 sec. (30 cycles) fault clearing time; minimum working distance 455 mm (18 in.)	4	20 ft (6 m)
Other 600-V class (277 V through 600 V, nominal) equipment. Parameters: Maximum of 65 kA short circuit current available; maximum of 0.03 sec. (2 cycles) fault clearing time; minimum working distance 455 mm (18 in.)	2	5 ft (1.5 m)
NEMA E2 (fused contactor) motor starters, 2.3 kV through 7.2 kV. Parameters: Maximum of 35 kA short-circuit current available; maximum of up to 0.24 sec. (15 cycles) fault clearing time; minimum working distance 910 mm (36 in.).	4	40 ft (12 m)
Metal-clad switchgear, 1 kV through 15 kV. Parameters: Maximum of 35 kA short circuit current available; maximum of 0.24 sec. (15 cycles) fault clearing time; minimum working distance 910 mm (36 in.)	4	40 ft (12 m)
Metal enclosed interrupter switchgear, fused or unfused type construction, 1 kV through 15 kV	4	12 m (40 ft)
Parameters: Maximum of 35 kA available fault current; maximum of 0.24 sec (15 cycles) fault clearing time; minimum working distance 910 mm (36 in.)	4	12 m (40 ft)
Other equipment 1 kV through 15 kV Parameters: Maximum of 35 kA available fault current; maximum of up to 0.24 sec (15 cycles) fault clearing time; minimum working distance 910 mm (36 in.)		

Equipment	Arc Flash PPE Category	Arc Flash Boundary
Arc-resistant equipment up to 600-volt class Parameters: DOORS CLOSED and SECURED; with an available fault current and a fault clearing time that does not exceed the arc-resistant rating of the equipment	N/A	N/A
Arc-resistant equipment 1 kV through 15 kV Parameters: DOORS CLOSED and SECURED; with an available fault current and a fault clearing time that does not exceed the arc-resistant rating of the equipment	N/A	N/A

/3/ Note 1. Refer to NFPA 70E for additional limitations regarding the use of the above table.