

## 1. Scope

This material standard covers the general requirements for manufacturing and supplying the District's Flame-Resistant (FR) work-wear garments.

## 2. Reference Standards

Where applicable and unless otherwise stated in this specification, garments shall comply with the latest revisions of the following Industry Standards:

### Arc Flash Standards

**ASTM D6413** Standard Test Method for Flame Resistance of Textiles (Vertical Test)

**ASTM F1506** Standard Performance Specification for Flame Resistant Textile Material for Wearing Apparel for Use by Electrical Workers Exposed to Momentary Electric Arc and Related Thermal Hazards

**ASTM F1958** Standard Test Method for Determining Ignitability for Clothing by Electric Arc Exposure Using a Manikin

**ASTM F1959** Standard Test Method for Determining Arc Thermal Performance (Value) of Textile Materials for Clothing by Electrical Arc and Related Thermal Hazards

**NFPA 70E** Standard for Electrical Safety in the Workplace

**NESC** National Electrical Safety Code

### Flash Fire Standards

**ASTM F1930** Standard Test Method for Evaluation of Flame Resistant Clothing for Protection Against Flash Fire using an Instrumented Manikin

**NFPA 2112** Standard on Flame-Resistant Garments for Protection of Industrial Personnel Against Flash Fire

### General Standards

**ANSI/ISEA 107** American National Standard for High-Visibility Safety Apparel and Head-wear

**ASTM F2302** Labeling for Protective Clothing as Heat/Flame Resistant

**ASTM F2757** Standard Guide for Home Laundering Care and Maintenance of Flame, Thermal, and Arc Resistant

### Clothing

**OSHA CFR 1910.269** Final Rule on Electrical Protective Equipment

## 3. VENDOR MANAGED CLOTHING PROGRAM

### 3.1 Vendor Managed Website Requirements

The Vendor shall provide and manage an employee-based flame resistant clothing program. The Vendor shall provide and manage a web based ordering system containing all approved garments that meet this specification.

The website shall include provisions for each employee to login with a unique username/password combination.

Garment information contained on the website will include at minimum, a color photo, manufacturer's product description,

available sizes, available colors, and lead time for each individual garment.

The website shall be configured such that the individual employee will be able to easily order their own clothing and view the balance of their account. Each District employee shall be treated as an individual customer in regard to purchases, individual packing, returns/exchanges, and repair requests.

The website shall also include general FR clothing laundering instructions.

## **3.2 Administrator Access Requirements**

The Vendor shall provide an Administrator account to designated District employees. This account shall have the ability to add to the balance of individual user accounts, as well as the ability to order clothes independently. The account shall have a discretionary balance separate from that of the individual users that will be determined by the District.

The Administrator account shall also have access to instant reporting. At minimum, the following reports shall be available to be queried by the Administrator on an ad-hoc basis: Items purchased (sorted by employee, includes quantity and prices) and Overall Program Summary (all charges and activity over the life of the program).

Additional reporting may be requested if a need is identified.

## **4. FR Clothing Requirements**

### **4.1 Materials**

All materials (fabrics, stitching, zippers, etc.) used shall be arc/flame resistant in compliance with the requirements of this material standard and individual garment standards, along with the latest revisions of the applicable reference standards cited.

### **4.2 Identification**

All garments with an NFPA-70E Hazard/Risk Category (HRC) rating of HRC-2 or greater, excluding pants, accessories, and undergarments, shall include a District logo.

Non-fleece style apparel shall include the logo pictured in Figure 1. Printing methods can include silk screening or heat application, with FR or non-FR ink. The logo shall be 2 3/4" wide by 3 3/4" high and shall be placed on the left sleeve below the shoulder. If this location is not feasible on certain garments, other locations may be acceptable if approved by the District.

Fleece style apparel (i.e. Polartec) shall include the logo pictured in Figure 2 embroidered in Nomex® FR thread.

The logo shall be 3.25" long by 1.25" high. The logo shall be embroidered on the left sleeve below the shoulder. The logo will have two colors and will be approved by the District with the awarded supplier.

A digital copy of the logos will be provided to the supplier upon request. Other methods may also be acceptable with prior District approval. District approval for the method of printing used is required before beginning production. The District will be the sole arbiter for approving printing methods.

Minor modifications of the logo by the Vendor are permissible to enhance readability and/or clarity with prior District approval. The awarded supplier shall furnish a proof of the final logo to be approved by the District prior to production.



Figure 1 - District FR Clothing Logo (Non-Fleece)



Figure 2 - District FR Clothing Logo (Fleece)

Garment Type	HRC Category	Minimum ATPV Value (cal/cm <sup>2</sup> )
Standard Long Sleeve Shirt	2	8
Shirt Jacket Sweatshirt	3	33
1/4 Zip Sweatshirt	2	15
Zip Up Hooded Sweatshirt	2	17
Hi-Viz Sweatshirt	2	24
Pullover Hooded Sweatshirt	2	16
Crew-Neck Sweatshirt	2	21
Insulated Zip Up Hooded Sweatshirt	4	44
Sleeveless Vest	4	43
Insulated Work Jacket	4	54
Insulated Bomber Jacket	3	34
Shell Jacket	3	26
Soft-Shell Jacket	2	17.5
Fleece Jacket	2	17.5
Flack Jacket	2	16
Stretch Jacket	2	15
Uninsulated Bib Overalls	2	16
Insulated Bib Overalls	4	54
Denim Pant	2	15
Non-Denim Pant	2	9.8
Beanie	2	15
Bra	1	4
Baselayer Short Sleeve Shirt	1	4
Baselayer Pant	2	15

Figure 3 - Minimum Garment HRC/ATPV Requirements

### 4.3 Arc Rating

Garments shall be clearly labeled in accordance to ASTM F2302, latest revision. Figure 3 details minimum acceptable HRC/ATPV ratings for garments provided by the Vendor.

### 4.4 Care Labeling

Garments shall be clearly labeled with instructions relating to proper care and laundering in accordance with ASTM F2302, latest revision. Vendor shall supply general laundering instructions for the garments.

### 4.5 Repairs

Upon request, a garment specific repair kit shall be provided to the District. The kit shall include buttons (if necessary), Nomex® FR thread, and needle to allow the District employee to make repairs.

## 5. Approved Garments

Garments provided shall be from a District approved Manufacturer Part list. In order to be approved, all garments shall be evaluated and field tested by District personnel.

## 6. Equivalent Garments

In the event of an individual garment or material being discontinued, it is acceptable for the Vendor to supply an "approved equivalent" in lieu of the requested item. Substituted garments will be considered as an approved equivalent if they meet or exceed the ratings and characteristics of the materials of the product they are to replace.

A product specification sheet, statement from the manufacturer regarding the product being discontinued, and sample of the proposed substitute must be submitted to the District for review prior to it being approved as an equivalent product.

Multiple items may be submitted and they need not be from the same manufacturer that they are replacing. The District shall be the sole arbiter in the determination of whether a garment shall be classified as equivalent.

Figure 3 details minimum acceptable HRC/ATPV ratings for garments submitted for review as equivalent products.

## 7. Packaging

The vendor shall utilize an individualized delivery system. Each order shall contain an individual packing list which includes employee name, ID number, department/office, items ordered and shipped, and any items on back order (with an estimated ship date). The packing list shall also include return and exchange procedures.

## 8. Shipping

All shipments of individual orders shall be delivered to the Snohomish County PUD Operations Center. In cases where there is a significant difference in lead times between garments on an order (more than 1 week), partial shipments are preferred, with the remaining balance of the order shipping separately once available. Otherwise it is preferred that orders are shipped complete whenever possible.