

**Invitation to Bid  
Town of Warren, RI  
Provision of Protective Gear**

The Town of Warren seeks sealed bids for the provision of protective gear for firefighters comprising traditional coats and trousers and traditional fire helmets.

Specifications are available online at [www.townofwarren-ri.gov](http://www.townofwarren-ri.gov) or in the Warren Town Clerk's Office, 514 Main Street, between 9 a.m. and 4 p.m. Monday through Friday.

Bids shall be submitted in a sealed envelope marked "PROTECTIVE GEAR" and delivered to the Town Clerk's Office prior to 10 a.m. Thursday, July 28, 2011, at which time the bids will be publicly opened and read.

The Town of Warren reserves the right to reject any or all bids and to waive any informalities and to accept the proposal deemed to be in the best interest of the Town.

Persons requesting interpreter services for the hearing impaired must notify the Town Clerk's Office not less than 48 hours prior to the bid opening. (401-245-7340)

Warren is an equal opportunity provider and employer.

Julie A. Coelho  
Town Clerk

## **INSTRUCTIONS TO BIDDERS**

### **1. DEFINITION OF TERMS**

- 1.1 The word “Town” is used to designate the Town of Warren having its principal office at 514 Main Street, Warren, RI 02885-4369, or its duly authorized representatives for whom the goods or services described are to be acquired.
- 1.2 The term “Contract Documents” means all documents contained in the “Specifications and Bid Documents” along with any addenda thereto, and also includes all Plans, Reports or other drawings or materials specifically referred to in the Contract Documents.
- 1.4 The word “Bidder” is used to designate any party submitting a Bid to supply the goods or services specified in the Contract Documents.
- 1.5 The words “Scope of Work” or “Scope of Services,” which may be used interchangeably, mean that which is required, whether fully or partially provided, and includes all other labor, materials, equipment and services provided or to be provided to fulfill the obligations of this Contract.

### **2. BIDDERS TO EXAMINE CONTRACT DOCUMENTS**

- 2.1 In accordance with the terms and conditions of the contract documents, the Bidder must do the following before submitting a bid:
  - 2.1.1 Examine the Contract Documents thoroughly.
  - 2.1.2 Become familiar with federal, state and local laws, ordinances, rules and regulations that may in any manner affect the cost, progress or performance of the Contract.
- 2.2 Bidders must carefully examine the contract Documents and, in addition, must use whatever means may be necessary to completely satisfy themselves of the extent and requirements thereof.
- 2.3 Submission of a Bid by a bidder is a representation that the Bidder has become familiar with the extent and requirements of the Contract and has correlated personal observations with the requirements of the Contract Documents.
- 2.4 Failure on the part of Bidders to thoroughly acquaint themselves with all details of all goods or services to be provided under the Contract and the conditions under which they will be provided will not be considered as a valid excuse for claims of any kind after the award of the Contract.

### **3. INTERPRETATION OF CONTRACT DOCUMENTS**

- 3.1 If Bidders fail to fully understand any clause or requirement of the Contract Documents, inquiry must be made of the Purchasing Director for an interpretation in advance of the submission of the bid. Also, Bidders shall promptly notify the Purchasing Director of any ambiguity, inconsistency or error

that they may discover upon examination of the Contract Documents. Such inquiries or notices shall be in writing and shall be received by the Purchasing Director at least seven (7) days prior to the date fixed for the opening of bids. Inquiries that are received fewer than seven (7) days prior to the date fixed for the opening of bids may not be answered. Answers will be issued in the form of addenda mailed or delivered to all parties known as having received a set of the Contract Documents. Only those questions that are answered by written addenda shall be binding. Oral and any other interpretations that may be given will be considered as having no legal effect on either the Bidder or the Town.

3.1.1 Receipt of addenda must be acknowledged in the space provided for the purpose in the Bid Forms. If a Bidder does not acknowledge receipt of any Addendum, he shall still be required to comply with said Addendum.

3.1.2 All Addenda shall become part of the Contract Documents and shall take precedence over the original Contract Documents. Subsequent Addenda shall take precedence over previously issued Addenda.

3.2 In the interest of brevity, the Contract Documents frequently omit modifying words such as “all” and “any” and articles such as “the” and “an”, but the fact that a modifier or an article is absent from one (1) statement and appears in another is not intended to affect the interpretation of either statement.

#### 4. SCOPE OF SERVICE

4.1 The Town of Warren is seeking proposals for protective coats and trousers and helmets for fire department personnel.

4.1.1 Specifications for the coats-trousers are attached. Bidder shall indicate manufacturer on the bid form.

4.1.2 Specification for the helmet is as follows:  
Cairns Traditional #1010 with leather 6” ID front and full faceshield.  
Bidders may propose and alternate but must demonstrate to the satisfaction of the Town that said alternate is equal to or better than the specified model. The decision of the Town regarding comparability shall be final.

4.1.3 Bidder shall indicate on the bid form the delivery date in number of days following receipt of order

#### 5. REJECTION OF BIDS

5.1 The Town may disqualify a Bidder if the Town has had prior negative experience with the Bidder. In addition, the Town reserves the right to reject any Bid that does not conform with the Contract Document requirements.

5.2 In the event that the Town shall reject any or all Bidders for any reason whatsoever, no Bidder shall be entitled to any compensation in connection with the preparation and submittal of the Bid or for any profits that might have been anticipated had the Contract been awarded to the Bidder.

6. AWARD OF CONTRACT

- 6.1 In evaluation the Bids, the Town shall consider the qualifications of the Bidder and whether Bids comply with the prescribed requirements.
- 6.2 The Town may consider operating costs, maintenance requirements, performance data and guarantees of materials and equipment.
- 6.3 The Town may conduct such investigations as it deems necessary to assist in the evaluation of any Bid, and to establish the responsibility, qualifications and financial ability of the Bidders to complete perform the Contract in accordance with the Contract Documents to the satisfaction of the Town within the Contract time.
- 6.4 Bidders are hereby advised that the Contract, if awarded, shall be awarded to the lowest responsible Bidder based upon the evaluation by the Township. Criteria include but are not limited to, the relationship of the goods or services offered to the specifications, performance and reliability of vendor and acquisition cost.

7. BID SUBMITTALS

- 7.1 Bids must be submitted upon the Bid Form included in the Contract Documents. The Bid Form must be fully filled out. Prices must be written in words and also stated in figures. Forms must be filled out in ink or printed. Pencil submissions are not allowed. Failure on the part of Bidder to conform to these requirements may be deemed, in the sole discretion of the Town, cause for rejection of the Bid as non-responsive.
- 7.2 Bids shall be enclosed in a sealed envelope. On the outside of the envelope, bidder shall show its name and address and shall indicate clearly "BID FOR PROTECTIVE GEAR."
- 7.3 All Bids are due at 10:00 a.m. on July 28, 2011. Any Bid received after the designated time shall be considered unresponsive and shall be returned unopened to the bidder.
- 7.4 All Bids shall be addressed to:

Town Clerk's Office  
Town of Warren  
514 Main Street  
Warren, RI 02885

Bids may be hand-delivered, sent via U.S. Postal Service or by overnight delivery service such as FedEx or UPS. The Town of Warren will not be responsible for late delivery without regard to the method of delivery.

**BID FORM: PROVISION OF PROTECTIVE GEAR**

TO: Town of Warren  
Office of Town Clerk  
514 Main Street  
Warren, Rhode Island 02885

Date: \_\_\_\_\_

Submitted By: \_\_\_\_\_

Include Address \_\_\_\_\_

Telephone # \_\_\_\_\_

**BASE BID**

Having examined the specifications and other Contract Documents prepared by the Town of Warren for the above mentioned project, we the undersigned, hereby propose as follows:

Coat, Pants & Suspenders per specifications (Amount in figures) \$ \_\_\_\_\_ per unit  
(Amount in words) \_\_\_\_\_

Equipment manufacturer name: \_\_\_\_\_

Cairns #1010 Traditional Fire Helmet: 6" ID front; full face shield (Amount in figures) \$ \_\_\_\_\_ per unit  
(Amount in words) \_\_\_\_\_

Delivery to be in \_\_\_\_\_ calendar days from date of order.

**ACKNOWLEDGEMENT OF ADDENDA**

List number and date received for each addendum.

**ACCEPTANCE**

This bid shall irrevocably open to acceptance for 90 days from the bid closing date.

**SIGNATURES**

\_\_\_\_\_  
(Bidders Printed Name)

By: \_\_\_\_\_  
(Signature)

Title: \_\_\_\_\_

Date: \_\_\_\_\_

**NON-COLLUSION AFFIDAVIT**

To: Town of Warren  
Re: Provision of Protective Gear

STATE OF RHODE ISLAND }  
COUNTY OF BRISTOL }

I \_\_\_\_\_ (name) of the \_\_\_\_\_ (municipality)  
In the County of \_\_\_\_\_ and the State of \_\_\_\_\_, of full age, being duly sworn  
according to law, on my oath depose and say  
I am \_\_\_\_\_ (official position) of \_\_\_\_\_ (bidder's name), the Bidder  
making the Bid for this Project.

I execute the said Bid with full authority to do so.

I, and to the best of my knowledge, the Bidder, and any officer, director, employee or other representative of the Bidder, have not, directly or indirectly, entered into any agreement, participated in any collusion or otherwise taken any action in restraint of free, competitive bidding in connection with the above named Project.

All statements contained in said Bid and all Contract Documents and in this affidavit are true and correct, and made with full knowledge that the Project Owner relies upon the truth of the statements contained in said Bid and Contract Documents, and in the statements contained in this affidavit, in awarding the contract for the said Project.

I further warrant that no person or selling agency has been employed or retained to solicit or secure such contract upon an agreement or understanding for a commission, percentage, brokerage or contingent fee except bona fide employees or bona fide established commercial or selling agencies maintained by the Bidder.

Sworn on behalf of: \_\_\_\_\_  
By: \_\_\_\_\_

Sworn and subscribed to  
before me this \_\_\_\_\_ day  
of \_\_\_\_\_, 2011

**BIDDER CORPORATE/PARTNERSHIP RESOLUTION**

*This document shall be executed where the bidder is a corporation or partnership and is evidence of authority to bind the bidder if it is such an entity.*

To: Town of Warren  
Re: Provision of Protective Gear

Resolved that the following named Officers or Partners

Be and they are hereby authorized and empowered to sign and submit to the Town of Warren the attached Bid and other Bid Submission Documents, and further that said Officers or Partners are authorized to execute the Contract and any other agreement or bond or statement necessary to fulfill the obligations required by the Contract Documents incurred by the acceptance of the Bid by the Town of Warren.

I hereby certify that the above constitutes a true copy of a Resolution or Partnership Agreement passed and approved by the Board of Directors or Partners at a meeting held on the \_\_\_\_\_ day of \_\_\_\_\_ 20\_\_\_\_.

Signature of Bidder's Authorized Representative: \_\_\_\_\_  
Title of Signer: \_\_\_\_\_ Date: \_\_\_\_\_

Attested by: \_\_\_\_\_  
Title: \_\_\_\_\_  
Date: \_\_\_\_\_

**ACKNOWLEDGEMENT OF CORPORARTION**

STATE OF \_\_\_\_\_ }

}

COUNTY OF \_\_\_\_\_ }

I certify that on the \_\_\_\_\_ day of \_\_\_\_\_ 20\_\_\_\_, \_\_\_\_\_  
acknowledged under oath that:

- a. This person is the \_\_\_\_\_ of  
the corporation described in the foregoing documents.
- b. This person is the attesting witness to the signing of said documents by the proper  
corporate officer who is (*name*) \_\_\_\_\_, the  
(*office held*) \_\_\_\_\_ of the Corporation.
- c. The documents were signed and delivered by the Corporation as its voluntary act duly  
authorized by a proper Corporation resolution.
- d. This person knows the proper seal of the Corporation which was affixed to said  
documents.
- e. This person signed this proof to attest to the truth of these facts.

L.S. \_\_\_\_\_

Sworn and subscribed to  
before me this \_\_\_\_\_ day  
of \_\_\_\_\_, 2011



**GENERAL SPECIFICATIONS  
PROTECTIVE COATS & TROUSERS (TRADITIONAL STYLING)  
FOR STRUCTURAL FIRE FIGHTING**

**WARREN FIRE DEPARTMENT**

**SCOPE**

This specification details design and materials criteria to afford protection to the upper and lower torso, excluding head, hands, and feet, against adverse environmental effects during structural fire fighting. All materials and construction will meet or exceed NFPA Standard #1971 (2007 revision) and/or OSHA for structural fire fighters protective clothing.

Comply                       Exception

**SIZING**

The jacket length shall be measured from the juncture of the collar and back panels to the hem of the jacket and shall measure 35 inches long. The jacket shall be available in male and female patterns in even size chest measurements of two inch increments, and shall range from a small size of 30 to a large size of 68. Generalized sizing, such as small, medium, large, etc., will not be considered acceptable.

Comply                       Exception

**OUTER SHELL MATERIAL - COATS & TROUSERS**

The outer shell shall be constructed of TENCATE "DEFENDER™ 750" Nomex® IIIA plain weave with an approximate weight of 7.5 oz. per square yard, shall be treated with Shelltite™ water repellent finish. Color of garments to be black.

Comply                       Exception

**THERMAL INSULATING LINER - JACKET AND TROUSERS**

The thermal liner shall be constructed of "Q8"; one layer of Aramid batt, quilt stitched to a 50% meta-aramid / 50% FR Modacrylic blend face cloth, with a finished weight of approximately 8.0 oz. per square yard, and is Platinum in color. A 7 inch by 9 inch pocket, constructed of self material and lined with moisture barrier material, shall be affixed to the inside of the jacket thermal liner on the left side by means of a lock stitch. The thermal liner shall be bound around its perimeter with Bias-Cut Neoprene coated cotton/polyester binding. The thermal liner shall be attached to the moisture barrier (as described under the "Separating Liner System" section). Further mention of "Thermal Liner" in this specification shall refer to this section.

Comply                       Exception

**MOISTURE BARRIER - JACKETS AND TROUSERS**

STEDFAST (STEDAIR® 3000) ePTFE moisture barrier is engineered using an E-89™ substrate and BHA Technologies ePTFE membrane, with an approximate weight of 5.5 oz. per square yard. The Stedair bi-component ePTFE membrane is a combination of microporous and monolithic technologies. The moisture barrier material shall meet all moisture barrier requirements of NFPA

1971-2007 edition, which includes water penetration resistance, viral penetration resistance, and common chemical penetration resistance. The moisture barrier shall be sewn to the thermal liner at the edges only and bound with bias-cut Neoprene-coated cotton/polyester binding. Further mention of "Specified Moisture Barrier" in this specification shall refer to this section.

Comply       Exception

### **SEALED MOISTURE BARRIER SEAMS**

All moisture barrier seams shall be sealed with a minimum 1 inch wide sealing tape. One side of the tape shall be coated with a heat activated glue adhesive. The adhesive side of the tape shall be oriented toward the moisture barrier seam. The adhesive shall be activated by heat and the sealing tape shall be applied to the moisture barrier seams by means of pressure exerted by rollers for that purpose.

Comply       Exception

### **METHOD OF THERMAL LINER/MOISTURE BARRIER ATTACHMENT - COAT & TROUSERS**

The thermal liner and moisture barrier shall be completely removable from the jacket shell. Two strips of 5/8 inch wide flame resistant FR Velcro® hook and loop fastener tape shall secure the thermal liner/moisture barrier to the outer shell along the length of the neck line under the collar (see Collar section). The remainder of the thermal liner/moisture barrier shall be secured with a minimum of six snap fasteners appropriately spaced on each jacket facing for the 35-inch length coat and four snap fasteners at each sleeve end.

The thermal liner and moisture barrier shall be completely removable from the trouser shell. Nine snap fasteners shall be spaced along the waistband to secure the thermal liner/moisture barrier to the shell. The legs of the thermal liner/moisture barrier shall be secured to the shell by means of two snap fasteners per leg.

Comply       Exception

### **THERMAL PROTECTIVE PERFORMANCE**

The assembled garment, consisting of an outer shell, moisture barrier, and thermal liner, shall exhibit a TPP (Thermal Protective Performance) rating of not less than 35.

Comply       Exception

### **STITCHING**

The outer shell shall be assembled using stitch type #301, #401, and #516. The thermal liners and moisture barriers shall be assembled using stitch type #301, #401, #504, #514, and #516. Stitching in all seams shall be continuous. There shall be no joined stitching in midseam. All major A outer shell structural seams, major B structural liner seams, and shall have a minimum of 8 to 10 stitches per inch.

Comply       Exception

## **COAT CONSTRUCTION**

### **BODY**

The body of the shell shall be constructed of three separate body panels consisting of two front panels and one back panel. The body panels shall be shaped so as to provide a tailored fit thereby enhancing body movement and shall be joined together by double stitching with Nomex® thread.

\_\_\_\_\_ Comply                      \_\_\_\_\_ Exception

### **DRAG RESCUE DEVICE (DRD)**

A Firefighter Drag Rescue Device shall be installed in each jacket. The ends of a 1½ inch wide strap, constructed of black Kevlar® with a red Nomex® center stripe, will be sewn together to form a continuous loop. The strap will be installed in the jacket between the liner system and outer shell such that when properly installed will loop around each arm. The strap will be accessed through a portal between the shoulders on the upper back where it is secured in place by a FR Velcro® strap. The access port will be covered by an outside flap of shell material, with beveled corners designed to fit between the shoulder straps of an SCBA. The flap will have a NFPA-compliant 3M Scotchlite™ reflective logo patch sewn to the outside to clearly identify the feature as the DRD (Drag Rescue Device). The DRD shall not extend beyond the outside flap. This device provides a quickly deployed means of rescuing a downed firefighter. Flimsy, rope-style DRD straps will not be considered.

\_\_\_\_\_ Comply                      \_\_\_\_\_ Exception

### **LINER ACCESS OPENING (JACKET)**

The thermal liner and moisture barrier shall be completely removable from the jacket shell. Two strips of 5/8 inch wide flame resistant FR Velcro® hook and loop fastener tape shall secure the thermal liner/moisture barrier to the outer shell along the length of the neckline under the collar. This opening shall run the full length of the collar for the purpose of inspecting the inner surfaces of the coat liner system. The remainder of the thermal liner/moisture barrier shall be secured with a minimum of four snap fasteners appropriately spaced on each jacket facing and four snap fasteners at each sleeve end. The outside perimeter of the liner moisture barrier and thermal liner layers shall be bound together along the side and bottom edges with a bias-cut Neoprene coated cotton/polyester binding for a finished appearance that prevents fraying and wicking of contaminants.

\_\_\_\_\_ Comply                      \_\_\_\_\_ Exception

### **LINER ELBOW THERMAL ENHANCEMENT**

An additional layer of thermal liner material shall be sewn to the elbow area of the liner system for added protection at contact points and increased thermal insulation. The elbow thermal enhancement layers shall be sandwiched between the thermal liner and moisture barrier layers of the liner system and shall be stitched to the thermal liner layer only.

\_\_\_\_\_ Comply                      \_\_\_\_\_ Exception

### **RETROREFLECTIVE FLUORESCENT TRIM**

The retroreflective fluorescent trim shall be lime/yellow 3M Scotchlite™. Each jacket shall have an adequate amount of retroreflective fluorescent trim affixed to the outside of the outer shell to meet

the requirements of NFPA #1971 (2007 edition) and OSHA. The trim shall be in the following widths and shall be **NFPA Basic 3 style**; 3 inch wide stripes - around each sleeve below the elbow, around the bottom of the jacket within approximately 1 inch of the hem, and around the back and chest area approximately 3 inches below the armpit.

\_\_\_\_\_Comply            \_\_\_\_\_Exception

**REINFORCED TRIM STITCHING**

All reflective trim is secured to the outer shell with Nomex® thread, using a locking chainstitch protected by our exclusive TrimTrax™ system.(Developed exclusively by Globe Manufacturing Co., LLC) This strip of 3/32-inch strong, durable, flame resistant black Kevlar cording provides a bed for the stitching along each edge of the retroreflective fluorescent trim surface and affords extra protection for the thread from abrasion. TrimTrax™ has been proven to be 5 to 7 times more durable than single or even double rows of stitching, significantly reducing maintenance costs and providing more value and a longer service life. Two rows of stitching used to attach the trim in place of the TrimTrax™ shall be considered an unacceptable alternative, since it has been proven that the two rows of stitching has insignificant impact on wear life. All trim ends shall be securely sewn into a seam for a clean finished appearance..

\_\_\_\_\_Comply            \_\_\_\_\_Exception

**SEWN ON RETROREFLECTIVE LETTERING**

Each jacket shall have 3" lime/yellow 3M Scotchlite™ lettering on Row A reading: WFD

\_\_\_\_\_Comply            \_\_\_\_\_Exception

**SLEEVES**

The sleeves shall be of two-panel construction, contoured, and of set in design. The outer and under sleeve panels shall be double stitched together with Nomex® thread. The sleeves shall be contoured (curved) to follow the natural shape of the human arm unlike straight, tubular sleeve configurations. An underarm gusset shall be incorporated between the underside of the sleeve and the body of the coat, and shall be used in all layers of the garment (shell, moisture barrier, and thermal liner). The underarm gusset shall measure approximately 5 inches wide by 17 inches long (all layers) and graded to size, beginning at the front of the armpit and terminating approximately three inches from the top of the back of the shoulder, and shall provide for a high degree of uninhibited arm and shoulder movement.

\_\_\_\_\_Comply            \_\_\_\_\_Exception

**SLEEVE CUFF REINFORCEMENTS**

The sleeve cuffs shall be reinforced with gray suede leather. The cuff reinforcements shall not be less than 2 inches in width and folded in half, approximately one half inside and one half outside the sleeve end for greater strength and abrasion resistance. The cuff reinforcement shall be double stitched to the sleeve end for a total of four rows of stitching. This independent cuff provides an additional layer of protection over a turned and stitched cuff. Coats finished with a turned and stitched cuff do not provide the same level of abrasion resistance and will be considered unacceptable.

\_\_\_\_\_Comply            \_\_\_\_\_Exception

## **WRISTLETS / SLEEVE WELLS**

Each jacket shall be equipped with Nomex® knit wristlets not less than 4 inches in length and of double thickness. Nomex® knit is constructed of 96% Nomex® and 4% Spandex for shape retention. The wristlets shall be sewn to flame resistant neoprene coated cotton/polyester impermeable barrier material, which in turn shall be sewn to the inside of the sleeve shell approximately five inches from the sleeve cuff. This sleeve well configuration serves to prevent water and other hazardous elements from entering the sleeves when the arms are raised. The neoprene barrier material shall also line the inside of the sleeve shell from the cuff to a point approximately five inches up, where it joins the sleeve well and is double stitched to the shell. Four Nomex® snap tabs will be sewn into the juncture of the sleeve well and wristlet. The tabs will be spaced equidistant from each other and shall be fitted with female snap fasteners to accommodate corresponding male snaps in the liner sleeves. This configuration will ensure there is no interruption in protection between the sleeve liner and wristlet.

\_\_\_\_\_ Comply          \_\_\_\_\_ Exception

## **COLLAR**

The collar shall consist of five-layer construction and be of two-piece design. The collar shall have a minimum of 3 rows of quilting. The outer layers shall consist of outer shell material, with three-layers of specified moisture barrier sandwiched between (see Moisture Barrier section). The rear inside ply of moisture barrier shall be sewn to the collar's back layer of outer shell with four lateral rows of stitching for reinforcement. The forward inside ply and center layer of moisture barrier shall be sewn to the inside of the collar at the edges only. The multi-layered configuration shall provide protection from water and other hazardous elements. The collar shall be of two piece design with the left and right halves of all component materials joined in the center by stitching, thereby permitting the collar to retain its proper shape and roll. The collar shall be minimum 3½ inches high and graded to size. The leading edges of the collar shall extend up evenly from the leading edges of the jacket front body panels so that no gap occurs at the throat area. The collar's back layers of outershell, moisture barrier and center ply of moisture barrier, shall be joined to the body panels with two rows of stitching. Inside the collar, above the seam where it is joined to the shell, shall be a strip of 5/8 inch wide FR Velcro® hook fastener tape running the full length of the collar. The collar's front layers of moisture barrier and outershell shall have an additional strip of 5/8 inch wide hook fastener tape stitched to the inside lower edge and running the full length of the collar. These two inside strips of 5/8 inch wide FR Velcro® hook fastener tape sewn to the underside of the collar shall engage corresponding pieces of flame resistant loop fastener tape at the front and back neck area of the liner system. The collar closure strap shall be constructed of two plies of outer shell material with two center plies of moisture barrier material, and shall measure not less than 4 inches wide by 9 inches long. The collar closure strap shall be secured in the closed and stowed position with flame resistant hook and loop fastener tape. A 1½ inch by 3 inch piece of FR Velcro® loop fastener tape shall be sewn vertically to the inside of the end of the closure strap. A corresponding piece of FR Velcro® hook fastener tape measuring 1½ inches by 3 inches shall be sewn horizontally to the outside of the collar on the opposite side, thereby providing a high degree of collar strap adjustment when wearing a breathing apparatus mask. In order to provide a means of storage for the closure strap when not in use, a 1 inch by 3 inch piece of FR Velcro® hook fastener tape shall be sewn horizontally to the collar immediately in front of the closure strap. The collar closure strap shall fold in half with the FR Velcro® loop fastener tape engaging the FR Velcro® hook fastener tape. An NFPA compliant fabric hanger loop shall be sewn to the inside of the liner at the neckline.

\_\_\_\_\_ Comply          \_\_\_\_\_ Exception

## **LINER SHOULDER AND UPPER BACK THERMAL ENHANCEMENT**

An additional layer of thermal liner material shall be used to increase thermal insulation in the upper back and shoulder area of the liner system. This thermal enhancement layer shall drape over the top of each shoulder extending from the collar to the sleeve/shoulder seam, and from the juncture of the collar and back panel to a depth of 7½ inches. The upper back and shoulder thermal enhancement layers shall be sandwiched between the thermal liner and moisture barrier layers of the liner system and shall be stitched to the thermal liner layer only.

\_\_\_\_\_ Comply          \_\_\_\_\_ Exception

## **PATCH POCKETS**

Each coat front body panel shall have a 10 inch wide by 10 inch deep patch pocket double stitched to it and shall be located to provide accessibility. The lower pocket corners shall be stitched in such a way that a small diagonal opening is left for complete water drainage. The lower half of each patch pocket shall be reinforced with an additional layer of outer shell material on the inside. The pocket flaps shall be rectangular in shape, constructed of two layers of outer shell material, and shall measure 3 inches deep and ½ inch wider than the pocket. The upper pocket corners and pocket flaps shall be reinforced with bartacks. The pocket flaps shall be closed by means of flame resistant Velcro® hook and loop fastener tape. Two pieces of 1½ inch by 3 inch FR Velcro® hook fastener tape shall be installed horizontally on the inside of each pocket flap (one piece on each end). Two corresponding pieces of 1½ inch by 3 inch FR Velcro® loop fastener tape shall be installed horizontally on the outside of each pocket near the top (one piece on each end) and positioned to engage the hook fastener tape.

\_\_\_\_\_ Comply          \_\_\_\_\_ Exception

## **"SURVIVOR" FLASHLIGHT HOLDER**

Each jacket shall be equipped with a "Survivor" flashlight holder. An inward facing metal safety hook/coat snap shall be triple riveted in a vertical position to the upper chest. The inward facing snap hook will accommodate the clip portion of the flashlight. Below the coat hook will be a strap constructed of outer shell material measuring approximately 2½ inches high and 9 inches wide, and will hold the barrel of the flashlight. The lower strap will be equipped with a 1½ inch by 3-inch flame resistant Velcro® hook and loop closure at the front of the strap to facilitate easy removal of the flashlight. There shall be approximately 4 inches between the upper snap hook and lower strap. The "Survivor" flashlight holder shall be sewn to the jacket on the right chest.

\_\_\_\_\_ Comply          \_\_\_\_\_ Exception

## **RADIO POCKET**

Each jacket shall have a pocket designed for the storage of a portable radio. This pocket shall be of box type construction, double stitched to the coat, and shall have one drainage eyelet in the bottom of the pocket. The pocket flap shall be constructed of two layers of outer shell material measuring approximately 5 inches deep and ¼ inch wider than the pocket. The pocket flap shall be closed by means of flame resistant Velcro® hook and loop fastener tape. A 1½ inch by 3 inch piece of FR Velcro® hook fastener tape shall be installed vertically on the inside of the pocket flap beginning at the center of the bottom of the flap. A 1½ inch by 3 inch piece of FR Velcro® loop fastener tape shall be installed horizontally on the outside of the pocket near the top center and positioned to engage the hook fastener tape. In addition, the entire inside of the pocket shall be lined with Neoprene coated cotton/polyester barrier material to ensure that the radio is protected from the elements. The Neoprene barrier material shall also be sandwiched between the two layers of outer shell material in

the pocket flap for added protection. The radio pocket shall measure approximately 3 inches deep by 3½ inches wide by 9 inches high and shall be installed on the left chest.

\_\_\_\_\_Comply            \_\_\_\_\_Exception

#### **MICROPHONE STRAP**

A strap shall be constructed to hold a microphone for a portable radio. It shall be sewn to the coat at the ends only. The microphone strap shall be mounted above the radio pocket and shall be constructed of double layer outer shell material.

\_\_\_\_\_Comply            \_\_\_\_\_Exception

#### **COAT FRONT**

The coat shall incorporate separate facings to ensure there is no interruption in thermal or moisture protection in the front closure area. The facings shall measure 2½ inches wide, extend from collar to hem, and be double stitched to the underside of the outer shell at the leading edges of the front body panels. Breathable moisture barrier material shall be sewn to the coat facings and configured such that it is sandwiched between the coat facing and the inside of the respective body panel. The breathable film side shall face inward to protect it. The thermal liner and moisture barrier assembly shall be attached to the coat facings by means of snap fasteners.

\_\_\_\_\_Comply            \_\_\_\_\_Exception

#### **STORM FLAP**

A rectangular storm flap measuring 3¼ inches wide and 23 inches long shall be centered over the left and right body panels to ensure there is no interruption in thermal or moisture protection in the front of the coat. The outside storm flap shall be constructed of two plies of outer shell material with a center ply of breathable moisture barrier material. The outside storm flap shall be double stitched to the right side body panel and shall be reinforced at the top and bottom with bartacks.

\_\_\_\_\_Comply            \_\_\_\_\_Exception

#### **STORM FLAP AND COAT FRONT CLOSURE SYSTEM**

The coat shall be closed by means of (zipper and hook & dee rings; aka #6C) a 22 inch heavy duty brass zipper on the jacket fronts and flame resistant Velcro® hook and dee rings on the storm flap. The teeth of the zipper shall be mounted on black Nomex® cloth and shall be sewn into the respective jacket facings. The storm flap shall close over the left and right jacket body panels and shall be secured by means of four non-ferrous inward facing hook and dee rings. The dee rings shall be secured to the leading edge of the storm flap with two rivets. The rivets shall be reinforced on the underside of the storm flap with leather. The dee rings shall be spaced along the storm flap. Four inward facing hooks shall be attached to the left front body panel with three rivets for each hook. The rivets shall be reinforced on the inside of the body panel with a single circular piece of leather for each hook. The inward facing hooks shall be positioned in such a manner that they engage the dee rings when the storm flap is closed over the front of the jacket.

\_\_\_\_\_Comply            \_\_\_\_\_Exception

## **TROUSER CONSTRUCTION**

### **BODY**

The body of the shell shall be constructed of four separate body panels consisting of two front panels and two back panels. The body panels shall be shaped so as to provide a tailored fit thereby enhancing body movement and shall be joined together by double stitching with Nomex<sup>®</sup> thread. The body panels and seam lengths shall be graded to size to assure accurate fit in a broad range of sizes.

The rise at the front of the trouser shall be approximately 16 inches from the top of the waistband to the bottom of the crotch seams and graded to size.

\_\_\_\_\_ Comply          \_\_\_\_\_ Exception

### **WAISTBAND**

The waist area of the trousers shall be reinforced on the inside with a separate piece of black aramid outer shell material not less than two inches in width, cut on the bias to allow increased mobility. Neoprene coated cotton/polyester shall be sewn to the back of the waistband as a reinforcement, creating three-layer protection. The top edge of the waistband reinforcement shall be double stitched to the outer shell at the top of the trousers. The lower edge of the waistband shall be serged and unattached to the shell to accept the thermal liner and moisture barrier. The top of the thermal liner and moisture barrier shall be secured to the underside of the waistband reinforcement so as to be sandwiched between the waistband reinforcement and outer shell to reduce the possibility of liner detachment while donning and to avoid pass through of snaps from the outer shell to the inner liner. The independent waistband construction affords greater comfort and fit than a stitched and turned waistband, which saves the manufacturer both fabric and labor, but is considered unacceptable. The waistband shall be shaped to rise slightly in the back above the normal level of the waist to ensure the trousers will not be drawn down in back while crawling or bending. Eight rust resistant suspender buttons shall be anchored to the upper portion of the waistband. Four shall be installed in the back and four shall be installed in the front and shall be compatible with commercially available fire fighter suspenders. All suspender buttons shall be reinforced with leather on the inside of the waistband. A leather take up strap shall be riveted to the back of the right front body panel in the waist area and shall terminate with an inward facing corrosion resistant metal snap hook. The snap hook shall engage the leather backed dee ring located on the fly flap. The take up strap shall allow for two inches of adjustment.

\_\_\_\_\_ Comply          \_\_\_\_\_ Exception

### **LINER ACCESS OPENING (TROUSER)**

The thermal liner and moisture barrier layers of the trouser liner system shall be constructed in such a way as to allow the layers to separate for complete interior inspection, service and replacement. The thermal liner and moisture barrier layers shall be stitched together at the front fly for security and prevention of inadvertent use of one layer without the other. The liner system shall have a reinforcement of black Nomex<sup>®</sup> Twill sewn to the bottom of the fly opening. This reinforcement will serve to prevent the liner from tearing in that area from the constant donning and doffing of the trousers.

The liner system of the trouser shall incorporate an opening at the right side of the waist, a minimum of 11 inches, for the purpose of inspecting the integrity of the trouser liner system.

\_\_\_\_\_ Comply          \_\_\_\_\_ Exception

## TAKE UP STRAPS

The trousers shall be equipped with two take up straps. The straps shall be constructed of 1 inch wide black Aramid twill and be positioned in the waist area on the outside of the garment; one on each side. Each take up strap shall be comprised of two sub-component straps. The rear strap component shall be constructed of black Nomex<sup>®</sup> twill material. The rear strap shall measure 1 inch wide and 4 inches long, folded back on itself to form a loop, and shall be bartacked to the trousers. The loop shall hold a high temp thermoplastic buckle. The buckle shall point toward the front. The front strap component shall measure 1 inch wide by approximately 9 inches long (finished dimension). One end shall be folded back on itself to form a loop. A high temp thermoplastic slide fastener shall be captured within the loop. The front strap component shall be inserted through the buckle on the rear strap component, back through the slide fastener, and the end shall be bartacked to the trousers. A pull-tab of 1 inch black Aramid twill shall be affixed to the slide fastener. The take up strap pull-tabs shall pull toward the front to tighten. This shall allow for approximately 4 inches of adjustment per strap (8 inches overall).

\_\_\_\_\_ Comply                      \_\_\_\_\_ Exception

## EXTERNAL FLY FLAP

The fly flap shall be constructed of two pieces of outer shell material. A center ply of specified moisture barrier shall be sandwiched between the two outer shell pieces. The fly flap shall be double stitched to the left front body panel beginning at the waist and extending down to a depth of approximately 11 inches. The fly flap shall be approximately 6 inches wide at the top, tapering to approximately 1 inch in width at the crotch where it will be further reinforced with a bartack. A leather backed dee ring shall be riveted to the leading edge of the fly flap at the top and shall be positioned to engage the safety hook on the take-up strap when the fly flap is in the closed position.

An internal fly flap constructed of one ply of outer shell material, thermal liner and specified moisture barrier, measuring approximately 2 inches wide by 11 inches long, shall be sewn to the leading edge of the right front body panel in the fly area. The thermal liner and moisture barrier of the internal fly shall extend approximately 7 inches horizontally from the leading edge of the fly flap and will follow the shape of the outside large fly flap. The action of the external fly flap overlapping the internal fly flap lined with thermal liner and moisture barrier will ensure there is no interruption in protection.

\_\_\_\_\_ Comply                      \_\_\_\_\_ Exception

## TROUSER CLOSURE SYSTEM

The exterior primary positive locking closure shall be an inward facing corrosion resistant metal safety hook and dee ring, each backed with leather reinforcements. The safety hook shall be attached to the leading edge of the take up strap and shall engage the dee ring located on the leading edge of the external fly flap. (See paragraph on waistband construction).

The internal fly flap closure shall consist of two female snap fastener halves set approximately one inch from the leading edge of the external fly flap. The uppermost snap fastener shall be located approximately four inches below the waistband. The lower snap fastener shall be located approximately eight inches below the waistband. Corresponding male snap fastener halves shall be installed in the upper right front body panel and shall align with the female snap fastener halves on the fly flap when in the closed position.

Appropriate male and female snap fastener halves shall be installed at the leading edge of the waistband for the purpose of further securing the trousers in the closed position.

Additionally, the liner system shall have a reinforcement of black Nomex® Twill sewn to the bottom of the fly opening. This reinforcement will serve to prevent the liner from tearing in that area from the constant donning and doffing of the trousers.

\_\_\_\_\_ Comply                      \_\_\_\_\_ Exception

### **EXPANSION (BELLOWS) POCKETS**

An expansion pocket, measuring approximately 2 inches deep by 10 inches wide by 10 inches high shall be double stitched to the side of each leg straddling the outseam above the knee and positioned to provide accessibility. The lower half of each expansion pocket shall be reinforced with an additional layer of outer shell material on the inside. Two rust resistant metal drain eyelets shall be installed on the underside of each expansion pocket to facilitate drainage of water. The pocket flaps shall be rectangular in shape, constructed of two layers of outer shell material and shall measure 3 inches deeper than the pocket expansion and ½ inch wider than the pocket. The upper pocket corners and pocket flaps shall be reinforced with bartacks. The pocket flaps shall be closed by means of flame resistant Velcro® hook and loop fastener tape. Two pieces of 1½ inch by 3 inch FR Velcro® hook fastener tape shall be installed vertically on the inside of each pocket flap (one piece on each end). Two corresponding pieces of 1½ inch by 3 inch FR Velcro® loop fastener tape shall be installed horizontally on the outside of each pocket near the top (one piece on each end) and positioned to engage the hook fastener tape.

\_\_\_\_\_ Comply                      \_\_\_\_\_ Exception

### **LINER EXPANSION KNEE**

The liner system, comprised of the moisture barrier and thermal liner, shall be constructed with four darts per leg in the front of the knee. Two will be located above the knee (one on each side) and two will be located below the knee (one on each side). Each dart will be approximately 2 inches long. The darts in the liner provide a natural bend at the knee to increase freedom of movement when kneeling, crawling, climbing stairs or ladders, etc.

\_\_\_\_\_ Comply                      \_\_\_\_\_ Exception

### **LINER KNEE THERMAL ENHANCEMENT**

An additional layer of specified thermal liner material will be paired with an extra layer of specified moisture barrier material and sewn to the knee area of the liner system for added protection at contact points and increased thermal insulation. The knee thermal enhancement layers shall be sandwiched between the thermal liner and moisture barrier layers of the liner system and shall be stitched to the thermal liner layer only.

\_\_\_\_\_ Comply                      \_\_\_\_\_ Exception

### **KNEE REINFORCEMENTS**

The knee area shall be reinforced with gray suede leather. The knee reinforcement shall be slightly offset to the inside of the leg to insure proper coverage when bending, kneeling and crawling. The knee reinforcements shall measure 10 inches wide by 12 inches high and shall be double stitched to the outside of the outer shell in the knee area for greater strength and abrasion resistance.

\_\_\_\_\_ Comply                      \_\_\_\_\_ Exception

## **TROUSER CUFF REINFORCEMENTS**

The cuff area of the trousers shall be reinforced with gray suede leather. The cuff reinforcement shall not be less than 2 inches in width and folded in half, approximately one half inside and one half outside the end of the legs for greater strength and abrasion resistance. The cuff reinforcement shall be double stitched to the outer shell. Two Nomex<sup>®</sup> snap tabs (one each side), measuring approximately 1 inch long shall be bartacked to the inside of each leg of the outer shell approximately three inches from the bottom of the trouser leg. A female snap fastener half shall be installed at the end of each tab and shall align with the male snap fastener halves installed at the bottom of the trouser thermal liner/moisture barrier. The tab mounted snap fasteners shall secure the trouser thermal liner/moisture barrier to the outer shell within three inches of the cuff.

\_\_\_\_\_ Comply                      \_\_\_\_\_ Exception

## **REVERSE BOOT CUT**

The trouser leg cuffs will be constructed such that the back of the leg is approximately 1 inch shorter than the front. This construction feature will minimize the chance of premature wear of the cuffs and injuries due to falls as a result of "walking" on the trouser cuffs.

\_\_\_\_\_ Comply                      \_\_\_\_\_ Exception

## **RETROREFLECTIVE FLUORESCENT TRIM**

The trousers shall have a stripe of retroreflective fluorescent trim encircling each leg below the knee to comply with the requirements of NFPA #1971 (2007 revision) in 3 inch lime/yellow 3M Scotchlite<sup>™</sup>.

\_\_\_\_\_ Comply                      \_\_\_\_\_ Exception

## **REINFORCED TRIM STITCHING**

All reflective trim is secured to the outer shell with Nomex<sup>®</sup> thread, using a locking chainstitch protected by our exclusive TrimTrax<sup>™</sup> system. (Developed exclusively by Globe Manufacturing Co., LLC) This strip of 3/32-inch strong, durable flame resistant black Kevlar<sup>®</sup> cording provides a bed for the stitching along each edge of the retroreflective trim surface and affords extra protection for the thread from abrasion. TrimTrax<sup>™</sup> has been proven to be 5 to 7 times more durable than single or even double rows of stitching, significantly reducing maintenance costs and providing more value and a longer service life. Two rows of stitching used to attach the trim in place of the TrimTrax<sup>™</sup> shall be considered an unacceptable alternative, since it has been proven that the two rows of stitching has insignificant impact on wear life. All trim ends shall be securely sewn into a seam for a clean finished appearance.

\_\_\_\_\_ Comply                      \_\_\_\_\_ Exception

## **SUSPENDERS**

A pair of red Super Duty suspenders shall be supplied with each pair of trousers. The main body of the suspenders shall be constructed of 2-inch wide non-elasticized cotton webbing, and shall be equipped with non-slip thermoplastic slide fasteners for adjustment. The non-elasticized sections of the suspenders shall run over each shoulder and shall join together at a point approximately in the middle of the back, and just above the waist line on the front. The non-elasticized sections shall be joined together on the back with a thermoplastic loop and the loop stitched in place. 2-inch wide elasticized cotton webbing measuring approximately 12 inches long

shall be threaded through the loop on the back and allowed to move freely to eliminate restriction of fire fighter movement. Leather shall be stitched to the ends of the elasticized back sections with slotted openings to fit over the suspender buttons. On the front, 2 inch wide elasticized webbing measuring approximately 9 inches long, shall be threaded through and folded over a thermoplastic loop attached to the non-elasticized portion on each side and allowed to move freely. Leather shall be stitched to the ends of the elasticized front sections with slotted openings to fit over the suspender buttons. The suspenders shall be of 4-way, 8-point design.

\_\_\_\_\_Comply            \_\_\_\_\_Exception

### **SIZING**

The trousers shall be available in even size waist measurements of two-inch increments and shall be available in a range of sizes from 24 to 68. The trouser inseam measurement shall be available in two inch increments. Generalized sizing, such as small, medium, large, etc., will not be considered acceptable. Sizing specifically for women shall also be available.

\_\_\_\_\_Comply            \_\_\_\_\_Exception

### **THIRD PARTY TESTING AND LISTING PROGRAM**

All components used in the construction of these garments shall be tested for compliance to NFPA Standard #1971 (2007 revision) by Underwriters Laboratories (UL). Underwriters Laboratories shall certify and list compliance to that standard. Such certification shall be denoted by the Underwriters Laboratories certification label.

\_\_\_\_\_Comply            \_\_\_\_\_Exception

### **LABELS**

Appropriate warning label(s) shall be permanently affixed to each garment. Additionally, the label(s) shall include the following information.

- Compliance to NFPA Standard #1971 - 2007 edition
- Underwriters Laboratories classified mark
- Manufacturer's name
- Manufacturer's address
- Manufacturer's garment identification number
- Date of manufacture
- Size
- Fiber contents

\_\_\_\_\_Comply            \_\_\_\_\_Exception

### **ISO CERTIFICATION / REGISTRATION**

It is strongly recommended that the protective clothing manufacturer be certified and registered to ISO Standard 9001 to assure a satisfactory level of quality. Indicate below whether the manufacturer is so certified and registered by checking either "Yes" or "No" in the space provided.

\_\_\_\_\_Yes            \_\_\_\_\_No

**BETTER BUSINESS BUREAU:**

The manufacturer is accredited by the Better Business Bureau, showing a commitment to ethical and principled business practices.

\_\_\_\_\_Comply            \_\_\_\_\_Exception

**EXCEPTIONS TO SPECIFICATIONS**

Any and all exceptions to the above specifications must be clearly stated for each heading. Use additional pages for exceptions, if necessary.

All Garments shall be manufactured in the United States.