

Louisiana Fire & Emergency Training Academy PROTECTIVE CLOTHING SPECIFICATIONS

NFPA 1971, 2018 EDITION

The purpose of the clothing is to provide protection during structural fire-fighting operations where there is a threat of fire or when certain physical hazards are likely to be encountered, such as during non-fire-related rescue operations, emergency medical operations, and victim extrication.

COMPLIANT **EXCEPTION**

STANDARDS

All garments produced shall meet or exceed the criteria set forth in the current edition of NFPA 1971 STANDARD ON PROTECTIVE ENSEMBLES FOR STRUCTURAL FIRE FIGHTING AND PROXIMITY FIRE FIGHTING, FED-OSHA CFR 1910, Subpart L, OSHA 29 CFR Part 1910.1030 and/or the requirements of CAL-OSHA title 8, Article 10.1, Para. 3406.

COMPLIANT **EXCEPTION**

All components and composites used in the construction of garments shall be third party tested, certified, and listed for compliance to NFPA 1971. The label of the third-party certification organization shall denote certification.

COMPLIANT **EXCEPTION**

The manufacturer shall be registered to the ISO Standard 9001 to assure a satisfactory level of quality.

COMPLIANT **EXCEPTION**

COMPOSITE PERFORMANCE

The garment composite, consisting of the outer shell, moisture barrier and thermal liner, shall provide a Thermal Protective Performance (TPP) of not less than 50 when tested in accordance with NFPA 1971 standard.

COMPLIANT **EXCEPTION**

The garment composite, consisting of the outer shell, moisture barrier and thermal liner, shall provide a Total Heat Loss (THL) of not less than 262 when tested in accordance with NFPA 1971 standard.

COMPLIANT **EXCEPTION**

The Heat Transfer Index rating shall be a minimum of 25 seconds for the shoulder when measured at 2 psi (pounds per square inch) and a minimum of 25 seconds for the knee when measured at 8 psi.

COMPLIANT **EXCEPTION**

OUTER SHELL MATERIAL

The outer shell shall be constructed of +/- 7.0 oz./sq. yd. 70% "PB! Domlnant" PBI®/KEVLAR® spun yarns/30% 600 denier KEVLAR® filament in a twill weave with extremely durable FPE water resistant Teflon® FPE alloy finish, Color shall be natural (gold).

COMPLIANT EXCEPTION

MOISTURE BARRIER MATERIAL

The moisture barrier shall be comprised of META-ARAMID substrate laminated to a lightweight breathable, ePTFE membrane; weighing 5.5 oz./sq. yd.

COMPLIANT EXCEPTION

THERMAL BARRIER MATERIAL

The thermal liner shall be comprised of Glide Ice™ high-lubricity, stress reducing, filament/spun face cloth weighing 3.6 oz./sq. yd. The META-ARAMID filament yarns shall represent no less than 60% of the face cloth's composition and shall be positioned in the warp direction of the weave in order to optimize their slippery characteristics on the face. Spun yarns comprised of 30% META-ARAMID and 10% Lenzing FR with superior wicking characteristics shall be used to promote moisture management within the garment. The Glide Ice™ face cloth shall be quilted to one layer of apertured (11"13 apertures/sq. inch) spun lace aramid (85% META-ARAMID/15% PARA-ARAMID) weighing approximately 1.5 oz./sq. yd. with a durable water repellent finish to promote minimal moisture stored in the garment microclimate as well as promote rapid drying. An additional layer of 3.0+ oz./sq. yd. META-ARAMID Chambray face cloth with a durable water repellent finish shall be positioned toward the outer shell. This layer provides additional thermal insulation and is treated with a durable water repellent finish to promote minimal moisture storage In the garment as well as promote rapid drying (total weight +/- 8,0 oz./sq. yd.),

COMPLIANT EXCEPTION

STRESS POINTS

All outer shell stress points, including top and bottom pocket corners, pocket flap corners, top and bottom of storm flap/ply shall be reinforced using a 42-stitch bar tack.

COMPLIANT EXCEPTION

REFLECTIVE TRIM

All trim shall be sewn with four rows lockstitch 301, minimum six stitches/inch for most secure trim attachment, Trim shall be 3" Ventilated Scotchlite™ Triple Trim (red/orange).

COAT- Coat trim shall be applied as follows: One 3" strip shall be set full circumference at the bottom sweep of the outer shell; one 3" strip shall be set around each sleeve approximately 2" from bottom of sleeve cuff; one 3" strip shall be set full circumference at the chest.

PANT - Pant trim shall be applied as follows: One strip set full circumference around the bottom of the cuff 2"-3" from the bottom cuff.

COMPLIANT EXCEPTION

SIZES

Coats shall be made available in even chest sizes with corresponding sleeve lengths available in short, regular, and long. Pant sizes shall be made available in even waist sizes with inseam lengths available in extra short, short, regular, and long. Male and female sizing is available.

COMPLIANT EXCEPTION

NOTE: All measurements are approximate and have an industry standard +/- tolerance. Positioning of parts on smaller size garments also may vary due to limited space available on smaller chest and waist sizes.

LABELING

Each garment shall have a garment label(s) permanently and conspicuously attached stating at least the following language, as well as detailed warning instructions provided by the manufacturer.

DO NOT REMOVE THIS LABEL.

THIS STRUCTURAL FIREFIGHTING PROTECTIVE GARMENT MEETS THE GARMENT REQUIREMENTS OF NFPA 1971, 2018 EDITION.

MADE IN THE U.S.A.

COMPLIANT **EXCEPTION**

TRACKING LABEL SYSTEM

There shall be a bar code label permanently affixed to each garment for tracking purposes. The bar code shall contain a unique serial number and shall be able to withstand customary wash and wear cycles. There shall also be a label with the minimum of the following information:

- A. Unique serial number
- B. Item description (brand, model, material color)
- C. Lot information (date of mfg., size, etc.)
- D. Material description
- E. The standard to which the garment is compliant

COMPLIANT **EXCEPTION**

PACKAGING

Each Coat and Pant shall be packaged in a dark plastic bag in order to provide protection during shipping and prior to first use.

COMPLIANT **EXCEPTION**

USER INFORMATION GUIDE

Each garment shall include a hang tag with a website address that links to an online, electronic User Information Guide with information required by NFPA 1971. This guide shall include:

A. PRE-USE INFORMATION

- Safety considerations
- Limitations of use
- Garment marking recommendations and restrictions
- A statement that most performance properties of the garment cannot be tested by the user in the field
- Warranty information

B. PREPARATION FOR USE

- Sizing/adjustment
- Recommended storage practices

C. INSPECTION

- Inspection frequency and details

D. DON/DOFF

- Donning and doffing procedures
- Sizing and adjustment procedures
- Interface issues

E. USE

- Proper use consistent with NFPA 1500, Standard on Fire Department, Occupational Safety and Health Program, and 29 CFR 1910, 132

F. MAINTENANCE AND CLEANING

- Cleaning instructions and precautions with a statement advising users not to use garments that are not thoroughly cleaned and dried
- Inspection details
- Maintenance criteria and methods of repair where applicable
- Decontamination procedures for both chemical and biological contamination

G. RETIREMENT AND DISPOSAL

- Retirement and disposal criteria and considerations

H. DRAG RESCUE DEVICE (DRD)

- Use, inspection, maintenance, cleaning, and retirement of the DRD

COMPLIANT **EXCEPTION**

WARRANTY

Each garment shall have a limited lifetime warranty against defects in material and workmanship.

COMPLIANT **EXCEPTION**

COUNTRY OF ORIGIN

The garments shall be manufactured in the United States.

COMPLIANT **EXCEPTION**

COAT CONSTRUCTION

The coat is designed of a 3-panel construction in all layers for optimum comfort and mobility. When measured at the center of the back from the collar seam to the hem bottom, the coat shall measure 29, 30.5", 32", 33.5", or 35" long; 29" or 32" for females. Sleeves shall be of raglan design.

COMPLIANT **EXCEPTION**

MOISTURE BARRIER/THERMAL LINER CONSTRUCTION

Design shall be compatible with the outer shell so that the liner does not buckle, pull, or otherwise restrict body motion. The left and right fronts of the moisture barrier/thermal liner shall be attached to the facings at the front closure of the outer shell. The moisture barrier/thermal liner shall be secured to the outer shell collar such that when donning the coat an arm may not be accidentally caught between the outer shell and its inner linings.

The liner shall have one internal pocket which shall be made of black outer shell material. The liner pocket shall be located on the left side of coat liner.

The moisture barrier shall be completely sewn to a durable water repellent finish treated META-ARAMID facecloth at its perimeter. The moisture barrier shall be sewn to the thermal liner at its perimeter with the breathable membrane oriented inward toward the thermal liner and away from the outer shell. All moisture barrier seams shall be sealed as required by NFPA 1971. The moisture barrier/thermal liner shall finish no more than 1" from the cuffs and 2" from the hem.

The vented moisture barrier features a circumferential opening at the torso mid-section with a two-inch overlap and bar tack reinforcement. Venting the moisture barrier allows increased heat loss performance while maintaining protection.

COMPLIANT **EXCEPTION**

MOISTURE BARRIER/THERMAL LINER ATTACHMENT

Completely Removable: The moisture barrier/thermal liner shall be completely detachable from the outer shell for ease of cleaning by the use of hook and loop, zippers, and snaps. There shall be a thermoplastic zipper and two snaps down each front facing, hook and loop shall also be located around the entire neck opening. In addition, there will be a snap for alignment along the bottom of the liner, and one snap and hook and loop at each sleeve end.

COMPLIANT **EXCEPTION**

COAT LINER INSPECTION SYSTEM

There shall be a 12" opening located on the coat liner system at the center right front of the liner. This opening will provide the ability to completely invert the coat liner to properly view the Integrity of the entire liner system. There shall be one piece 1" x 6" Loop sewn to the back side of the liner system with a piece of 1.5" x 5" Hook sewn to the inside of the outer shell to ensure proper alignment when installing the liner system into the outer shell, This Liner Inspection System Is completely hidden when the liner is properly installed into the outer shell.

COMPLIANT **EXCEPTION**

COLLAR

The 3" split collar shall consist of two-piece construction shaped for comfort. The collar shall be configured such that when the collar is raised it shall remain standing while providing continuous thermal and moisture protection around the neck and face. To ensure this protection, the two layers of outer shell collar shall be fully lined with a layer of moisture barrier. The shell collar shall provide proper interface with the liner to insure no moisture penetration through the collar seam to the inside of coat. The shell collar shall have multiple pieces $\frac{3}{4}$ " hook along top edge for liner attachment.

>>> There shall be four male snaps set in the hook & loop on the shell collar. One snap shall be set 3" left and 3" right of the center of the collar. One snap shall be set 6" over from the first snap on both sides. The snaps shall be set in between the fabric so the snaps do not show.

The liner collar shall be a layer of self-material and a layer of moisture barrier. The design shall be compatible with the outer shell so that the liner does not buckle, pull, or otherwise restrict body motion. The left and right fronts of the liner collar shall be attached to the facings at the front closure of the outer shell. The neck of the liner collar shall be secured to the neck of the outer shell collar such that when donning the coat an arm may not be accidentally caught between the outer shell and its inner linings.

A 4" wide piece of moisture barrier and 1.5" self-material extension shall be sewn the full length of the neck with two pieces of I" loop for attachment to shell collar. The self-material extension shall overlap the shell collar to prevent exposure of the hook and loop. Collar closure shall be provided by hook and loop 1.5" x 4", with hook portion sewn on right side of collar, and loop portion sewn on left, set horizontal. The collar shall be attached to the liner facing using $\frac{3}{4}$ " hook. Collar shall be of such design so as not to interfere with SCBA face masks, or helmet.

COMPLIANT **EXCEPTION**

DRAG RESCUE DEVICE (DRD)

The Fire Fighter Recovery Harness™ shall be constructed of a one and one-half inch wide PARA-ARAMID strap that shall be installed between the outer shell and the thermal liner. This harness shall have a hand loop (16" in circumference) that exits the outer shell through a 2" polymer coated aramid reinforced slot on the back of the coat just below the collar and is held in place by means of a piece of 1.5" x 2" loop on the strap and a piece of 1" x 3.5" loop attached to the outer shell. This strap is then secured under a 2.5" x 4.25" flap that is sewn in at the neck /collar area. One piece of 1" x 3.5" hook shall be set horizontally on shell to align with one piece of 1" x 3.5" loop set horizontally to the underside of the flap. The harness is also held in proper alignment by means of a piece of 2" x 2" loop placed on the inside of the outer shell underneath the chest trim that corresponds to a piece of 1.5" x 2" hook located on the harness, Two 1" x 3.5" self-fabric straps with 1" x 2" hook on one end and 1" x 2" loop on other end shall be set inside the coat in the shoulder cap area to keep straps in proper position for use. Fire Fighter Recovery Harness™ provides mechanical leverage for dragging a downed and incapacitated structural firefighter from a life-threatening environment. The design of the harness enables the rescuer to drag the downed firefighter in line with the axis of the fire fighter's skeletal frame, in order to decrease the risk of further injury,

COMPLIANT **EXCEPTION**

HANGER LOOP

An external hanger loop constructed of a double layer of outer shell material and reinforced with two 42-stitch bar tacks shall be provided on the outside of the coat at the collar seam. It shall be designed to provide long service and shall not tear or separate from the coat when the coat is hung by the hanger loop, loaded evenly with a weight of 80 lbs., and allowed to hang for one minute.

COMPLIANT **EXCEPTION**

LINER THERMAL REINFORCED YOKE

A layer of Semper Dri™ (3.0 oz./sq. yd. durable water repellent (DWR) finish Chambray (META-ARAMID spun) face cloth quilted to two layers of MBTA-ARAMID/PARA-ARAMID spun lace (total weight +/- 6,0-6,8 oz./sq. yd.) and a layer of quilted META-ARAMID/PARA-ARAMID spun lace with no facecloth shall be positioned between the moisture barrier and thermal liner for extra thermal protection in a high heat and compression area of the coat. It shall be sewn to the inside of the upper back portion of the thermal liner across the upper back from the back shoulder and collar seams 711 down, over the tops of shoulders and down the front approximately 411 ending at the armhole.

COMPLIANT **EXCEPTION**

SHELL THERMAL REINFORCED YOKE

A layer of Semper Dri™ (3.0 oz./sq. yd. Teflon® treated Chambray (NOMEX® spun) face cloth quilted to araflo/E-89™ (total weight +/-6,0-6.8 oz./sq. yd.) shall be sewn to the inside of the outer shell upper back portion and sleeve 13" in length and 12" across the sleeve.

COMPLIANT **EXCEPTION**

SHOULDER CAPS

A 4" wide area at the top of the shoulders extending 6" from the collar seam shall be capped with outer shell material for abrasion resistance and thermal protection.

COMPLIANT **EXCEPTION**

ELBOW

The sleeve shall have an insert throughout all layers that shall provide a natural bend in the sleeve. This elbow shall include cut outs, shaped pieces, and darts to create free movement with few restrictions. The insert shall consist of black polymer coated aramid for abrasion resistance and thermal protection. In addition to reinforcement, elbows shall be padded using one layer of uninterrupted 1/8" thick, fire retardant closed-cell foam. The reinforcement material shall be oriented between the outer shell and elbow insert reinforcement.

COMPLIANT **EXCEPTION**

SLEEVE WELL

A combination Chambray face cloth quilted to two layers of AraFlo E89 and one layer of breathable CROSSTECH® Black (Type 2F) moisture barrier leader shall be sewn no more than 1" back from the combination liner sleeve end to form a sleeve well. A thermoplastic zipper shall be sewn full circumference to the end of the thermal liner leader to help secure the combination liner to the outer shell. A CROSSTECH® Black (Type 2F) moisture barrier leader shall be sewn no more than 1" back from the combination liner sleeve end. This leader shall be approximately 4" in length and end with a gathering of 1" elastic. This sleeve well shall prevent water and hazardous materials from entering the sleeve when arms are in a raised position. The combination liner sleeve ends shall be inserted into the outer shell sleeve ends by means of lining up and attaching the zipper of the combination liner sleeve end with the corresponding zipper of the outer shell cuff. This method of combination liner attachment shall prevent any gaps from occurring between the combination

liner and sleeve well during a full range of motion. The combination liner shall extend to within 1" of the sleeve end.

COMPLIANT **EXCEPTION**

WRISTLETS

An Internal wristlet shall consist of a 2-ply knit of 48% META-ARAMID/48% PARA-ARAMID and 4% Spandex for superior recovery. Wristlet to be combination of producer-dyed natural and khaki colors with a durable water repellent finish. The wristlet shall not extend less than '8" completely over the palm with a thumbhole. Wristlets shall be double stitched and bound to the moisture barrier/thermal liner providing extended thermal and slash protection.

COMPLIANT **EXCEPTION**

CUFFS

The extended cuff of the sleeve shall be reinforced with a binding of black polymer coated aramid not less than 3" in total width for abrasion resistance and thermal protection. One leather tab with female snap fastener shall be set in the cuff to attach outer shell to liner.

COMPLIANT **EXCEPTION**

THERMAL FRONT PANEL CONSTRUCTION

There shall be continuous thermal and moisture protection around the entire torso including the storm flap. To ensure this protection, as well as reduce potential for wicking moisture to inside of liner, both right and left inside front facings of the coat outer shell shall incorporate outer shell fabric extending from collar to hem,

COMPLIANT **EXCEPTION**

COAT FRONT CLOSURE DESIGN

The complete outer shell coat front closure design shall consist of a FRONT CLOSURE SYSTEM completely protected by an OUTSIDE STORM FLAP which shall have its own, independent STORM FLAP CLOSURE SYSTEM.

COMPLIANT **EXCEPTION**

STORM FLAP

A storm flap measuring not less than 2.5" wide, nor less than 22" in length shall be set on the outside of the right side of the coat opening for maximum thermal protection and clear drainage. The inner lining of the storm flap shall be moisture barrier meeting all requirements for moisture barriers sandwiched between two layers of outer shell fabric.

COMPLIANT **EXCEPTION**

FRONT/STORM FLAP CLOSURES

The front closure shall consist of a thermoplastic zipper with a 1 3/4" polymer coated aramid tab added to left bottom for fast closure and exit. The storm flap closure shall consist of double-stitched 1.5" wide hook and loop attachment with hook fastener sewn on the left front of the coat, and corresponding loop fastener sewn on the inner side of the outer storm flap. The hook and loop closure shall extend the full length of the outer storm flap eliminating all exposed frontal hardware.

COMPLIANT **EXCEPTION**

SEMI-BELLOWS POCKETS

There shall be 1011 x 811 hanging semi-bellows pockets that expand by means of side and bottom gussets to a thickness of 1.5" in back only and 011 in front. Pockets shall be fully lined on all 4 sides with KEVLAR® twill and poly coated aramid Pockets and flaps shall be set with stitch 301, seam Ssb-2 with the top and bottom pocket-comers and top corners of flap reinforced with bar tacks for additional strength. Drainage of moisture to be provided by brass eyelets Pocket flaps shall be 11 "x 3.5". A hook and loop fastener closure system shall be set with two 2" x 3 11 horizontal loop fastener on the pocket and two 2" x 3" hook fastener set vertically on the underside of the flap. Pockets shall be located on the front; bottom hem each side.

COMPLIANT **EXCEPTION**

RADIO POCKET

There shall be a 4" wide x 1 O" deep full bellows radio pocket that expands by means of side and front gussets to a thickness of 2" in front and back. Pocket and flap shall be set with stitch 301, seam Ssb-2 with the top and bottom pocket comers and top comers of flap reinforced with a minimum 42-stitch bar tack. Two brass eyelet shall provide drainage of moisture. Pocket flaps shall be 5"x 5". Pocket shall be fully lined on 3 sides inside pocket with polycotton lining. The front of the pocket shall have a 3x3" mesh opening just below the flap closure. Pocket flap shall close to the pocket top using one piece of 2"x 3" loop on pocket horizontally and one piece of 2"x 3" hook on flap vertically. Pocket flap shall include an antenna notch on both sides to accommodate an antenna. Pocket shall be located on the left chest.

COMPLIANT **EXCEPTION**

MIC TAB

There shall be 1" X 3" triple layer self-fabric mic tabs attached with bar tacks on each side. Bar tacks shall be a minimum 42-stitch bar tack, (1) shall be set on the left chest just above radio pocket; (1) right chest same position as one on left.

COMPLIANT **EXCEPTION**

HANGING NAME PATCH

There shall be one 5" x 18" contoured 2-layer self-fabric one-line Letter Patch attached to hang from back hem via Velcro and Snaps (each end).

COMPLIANT **EXCEPTION**

LETTERS

There shall be 3" red-orange Scotchlite letters, sewn-on to the hanging patch for FF Names.

COMPLIANT **EXCEPTION**

LETTERS

There shall be 2" red-orange Scotchlite letters, sewn-on vertical down upper right sleeve; to read - FETA.

COMPLIANT **EXCEPTION**

PANT CONSTRUCTION

The pant shall have a low-rise waist design with five-inch-high-back panel with hook and loop for support panel of suspenders (required with these pants).

COMPLIANT **EXCEPTION**

EXTENDED BACK PANEL

A back panel shall be constructed of two layers of outer shell material, one middle layer of moisture barrier material and one layer of thermal liner material. One-piece self-fabric flap 9" wide x 5" high with 9 1/2" x 5" hook to attach suspenders. This panel shall be stitched to the perimeter of the outer shell and shall measure 10" across the top, 19" across the bottom (being graded for waist size) and extend 5" above the pant waist with 9" x 5" loop.

COMPLIANT **EXCEPTION**

MOISTURE BARRIER/THERMAL LINER CONSTRUCTION

Design shall be compatible with the outer shell so that the liner does not buckle, pull, or otherwise restrict body motion. To deter the wicking of moisture up the thermal liner leg the bottom nine inches of each thermal leg shall be constructed of Semper Dri™ (3.0 oz./sq. yd.), a durable water repellent finish treated Chambray (META-ARAMID spun) face cloth quilted to two layers of META-ARAMID/PARA-ARAMID spun lace (total weight +/- 6.0-6.8 oz./sq. yd.).

The waist of the moisture barrier/thermal liner shall be secured to the waist of the outer shell such that when donning the pant, a leg may not be accidentally caught between the outer shell and its inner linings along the waist and between the legs of the pant. For added thermal protection in the knee, an additional layer of uninterrupted 1/8" thick, fire resistant water-resistant foam shall be positioned between the moisture barrier and thermal liner.

The moisture barrier shall be completely sewn to the thermal liner at its perimeter with the breathable membrane oriented inward toward the thermal liner and away from the outer shell. The moisture barrier/thermal liner shall finish no more than 3" from the cuffs.

COMPLIANT **EXCEPTION**

MOISTURE BARRIER/THERMAL LINER ATTACHMENT

The moisture barrier/thermal liner shall be completely detachable from the outer shell for ease of cleaning by using snaps and hook and loop. Nine evenly spaced snaps shall secure the liner to the integral waistband; (5)

grey leather leg tabs 3/4" wide x 1 3/4" long with female snaps shall be bar tacked 2" up from bottom edge on inside of the pant cuff, and hook & loop on each side of fly facing.

COMPLIANT **EXCEPTION**

PANT LINER INSPECTION SYSTEM

There shall be an opening located on the pant liner system to the right side of the waist separating the thermal barrier and moisture barrier, approximately 12" in length. This opening will provide the ability to completely invert the pant liner to properly view the integrity of the entire liner system. There shall be a piece of 1" x 5" loop sewn to the moisture barrier 3" over from beginning of opening and a corresponding piece of 1.5" x 5" hook sewn to the inside of the outer shell to ensure proper alignment when installing the liner system into the outer shell. This Liner Inspection System is completely hidden when the liner is properly installed into the outer shell.

COMPLIANT **EXCEPTION**

STORM FLY/CLOSURE

The outer shell shall have a sewn on overlapping fly front running the full length of the fly on the left side. The flap shall not be less than 2.5" wide at the waistband. The bottom of the fly shall be reinforced with a 42 stitch bar tack. Pant closure shall be provided by a thermoplastic zipper. The storm fly shall be held closed along its length by means of a hook and loop fastener closure 1.5" minimum width sewn with four rows lockstitch, along the leading edge for a distance of not less than 6" from the bottom of the fly closure to the waist area for proper alignment and secure closure. Additionally, one snap shall be positioned at the inside top of the fly. The storm fly shall be outer shell material, lined with a 3.5" strip CROSSIBCH® (Type 2C) moisture barrier material to prevent wicking.

COMPLIANT **EXCEPTION**

THERMAL FLY ASSEMBLY

A 3/4" wide x 9" long loop fastener shall be sewn to the moisture barrier/thermal liner to engage corresponding hook fastener on the underside of the outside storm fly and facing.

COMPLIANT **EXCEPTION**

WAISTBAND

The waist of the pants shall be reinforced on the inside with 1. ply of outer shell material not less than 1.5" in width. The pant waist shall be contour shaped for better comfort and hemmed to provide strength with the independent waistband, which shall then be double stitched to the outer shell.

Two 2" wide self-material suspender tabs with snaps shall be attached to waist front for suspender attachment.

COMPLIANT **EXCEPTION**

ESCAPE BELT SYSTEM

The Escape Belt shall meet the escape belt requirements of the current edition of NFPA 1983, incorporated in NFPA 2500, including the optional flame resistance requirements and shall be designated as an Escape Belt. When used in conjunction with the certified ladder tether, the belt shall also meet the ladder belt requirements of the current edition of NFPA 1983, incorporated in NFPA 2500, including the optional flame resistance requirements, and shall be designated as a Ladder

Belt. The belt shall be designated as a life safety belt with a design load of 2.67 kN (600lbf). The belt shall integrate into the pants by means of the following:

- Custom securement straps that capture the closure hardware of the harness
- Belt loops that secure the belt portion of the harness and allow it to sit external to the outer shell at the waist.

The belt shall be completely removable from the pants. The belt shall be constructed of 1-3/4" black para-aramid webbing and is sewn with a bonded, twisted continuous filament para-aramid sewing thread that contrasts the webbing in color. The belt shall feature a steel V-ring and snap hook closure that is offset from center and opens and closes with the pant due to the integration elements. On the snap side of the belt, there shall be a fixed steel d-ring for attachment of a ladder tether or other accessory, next to that is a sliding steel d-ring for attachment of an escape system. When the sliding d-ring is loaded with enough force or impact, it will slide towards the center of the belt so that the load is at center. The belt can be adjusted by pulling forward on the tail of the webbing to tighten, and relieving tension on the adjuster buckle and pulling back to loosen. There shall be a web keeper on the belt that holds the webbing tail and helps to keep the adjustment. Adjuster hardware shall have an adjuster cover to protect from any abrasion between the hardware and turnout fabrics.

The belt shall be available in sizes S - XXL, corresponding with pant waist sizes 28"-62". The belt shall be available in both standard (left over right) and non-standard (right over left) configurations.

COMPLIANT EXCEPTION

RADIAL INSEAM BAND

A radial banded insert runs continuously from the top of knee on one leg, through the crotch area to the top of the opposite knee. The elimination of crotch seams reduces tension in the crotch area to give added comfort and helps to alleviate stress to extend the useful life of the gear. Also, there is an added insert piece in the design to help ensure that when the firefighter is kneeling or bending the leg of the garment bends in alignment with the leg so that the knee of the firefighter centers on the knee pad of the pants. It also helps to eliminate rubbing of the inseams of each leg against each other when the firefighter is working so that the risk of abrasion of the seams is minimized.

COMPLIANT EXCEPTION

KNEE

The knee shall have an insert throughout all layers that shall provide a natural bend in the leg. This knee shall include cut outs, shaped pieces, and darts to create free movement with few restrictions. The insert shall consist of polymer coated aramid (black) for abrasion resistance and thermal protection.

COMPLIANT EXCEPTION

KNEE PADDING

In addition to reinforcement, knees shall be padded using two layers of uninterrupted 1/8" thick water-resistant foam. Two layers of the padding material shall be oriented between the outer shell and knee insert reinforcement and one layer shall be on the liner.

COMPLIANT EXCEPTION

CUFFS

The cuff area of the pant shall be reinforced with a binding of polymer coated aramid (black) not *less* than 2" in total width for greater strength, abrasion resistance, and thermal protection. In addition, a 3" x 3 ½" piece of reinforcement material shall be sewn on the inseam area of the pant leg above the pant cuff and below the pant trim, in order to provide extra abrasion protection.

The material used on the kick shield shall match the material used on the pants cuffs. The back portion of the cuff will gradually curve upward from each side seam to a maximum of 2" at the center back of the pant leg to prevent wear on the back of the cuff.

COMPLIANT **EXCEPTION**

ZIPPER LEGS

Each pant leg shall have an expandable panel constructed in the outside seam that has a thermoplastic zipper that extends from the cuff to 12" up the side of the pants. The zipper shall be in the unzipped open position when at the upper level and shall be closed when zipped down at the cuff. When in the closed position, the zipper shall have a double layer of outer shell material that shall cover the entire width of the zipper and shall run the entire length of the zipper area. Behind the zipper shall be a panel constructed out of the same outer shell material that meets the same thermal protection for turnout pants when in the unzipped open position. The panel shall taper from a minimum of 6" at the cuff to 211 at the upper level. The bottom of each pant leg shall measure 12" when properly zipped closed and laid on a flat inspection surface and shall measure 15" wide when unzipped.

COMPLIANT **EXCEPTION**

FULL BELLOW POCKET

There shall be 10" wide x 10" deep outside full bellows pockets that expand by means of side and bottom gussets to a thickness of 2" in front and back pockets shall be reinforced with poly-coated aramid 5" up on the outside of the pocket. Pocket and flap shall be set with stitch 301, inseam Ssb-2 with the top and bottom pocket corners and top corners of flap reinforced with bar tacks for additional strength, Drainage of moisture to be provided by brass eyelets. Pocket flaps shall be 11" x 5". A hook and loop fastener closure system shall be set with 1" x 10" loop fastener horizontally on the pocket and (3) pieces of 1" x 3" hook fastener vertically on the underside of the flap. Pockets shall be located on each thigh.

COMPLIANT **EXCEPTION**

QUICK ADJUST H-BACK SUSPENDERS WITH SNAP TAB ATTACHMENTS

SCOPE

Highly engineered 40" red suspenders designed for greater range of mobility and reduced stress allowing for three points of attachment to High-back pants with hook and loop in back and snap attachment in front.

COMPLIANT **EXCEPTION**

DESIGN

Two 12" front pull straps shall be constructed as follows: 2" wide elastic polyester webbing shall be fed through 2" metal loops and secured with a two-needle lockstitch at one end. A black military finish steel double Dee Ring shall be fed through the webbing. The other end of the webbing shall be fed through a 2" wide thermo-plastic Dee Ring and secured with a two-needle lockstitch. The Dee Ring shall function as a pull strap for easily adjusting the suspenders for proper fit.

Two 1" shoulder straps shall be constructed as follows: 2" wide elastic polyester webbing shall be fed through the top half of the steel double Dee Ring and secured with a two-needle lockstitch. The top of each strap shall be secured to the V-shaped shoulder pad with two-needle lockstitch and one 42-stitch bar tack. Two 6" back straps made of 2" wide elastic webbing shall be joined with box and x-stitch at the bottom of each V-shaped shoulder pad. The end of each back strap shall be single-needle lockstitch to an 8" wide by 4" high hook and loop panel for seeming to V-Force back panel.

COMPLIANT **EXCEPTION**

V-SHAPED SHOULDER PADS

Shoulder pads shall include two layers of 1/8" thick, fire retardant closed-cell foam, each shoulder pad shall be 3" wide and 15" long ending in a 5" high-back reinforcement pad. Each shoulder pad shall have an embroidered Logo.

COMPLIANT **EXCEPTION**

LIFETIME WARRANTY

Each garment shall have a limited lifetime warranty against defects in material and workmanship. Additional warranty details available in User Guide.

COMPLIANT **EXCEPTION**

Cost and Estimated Delivery Time

VENDOR INFORMATION	
Business Name:	
Address:	
Contact Name:	
Contact Email:	
Contact Phone:	
Person Completing Form: (Signature)	
Person Completing Form: (Print)	

Turnout Coat – pricing submitted below shall meet the criteria listed in the RFP and must be the final price to the agency (shipping & handling fees included). Pricing shall be held firm for 90 days from the bid closing date. Vendor shall provide an estimated delivery time.

Item Description	Price	Delivery Time

Turnout Pant – pricing submitted below shall meet the criteria listed in the RFP and must be the final price to the agency (shipping & handling fees included). Pricing shall be held firm for 90 days from the bid closing date. Vendor shall provide an estimated delivery time.

Item Description	Price	Delivery Time

NFPA 1851 Services – vendor shall submit a detailed outline of their NFPA 1851 proposal to provide Advanced Cleaning, Advanced Inspection, and repairs to the agencies existing inventory and any new components added to the inventory. Services provided in this proposal shall be performed by a verified Independent Service Provider (ISP) and proof of third-party verification shall be included in the proposal. Pricing included in proposal shall clearly outline the price for both new components and existing components of the agencies inventory.