City of Oak Ridge, Tennessee
* * * * REQUEST FOR QUOTATION * * * *
******WAREHOUSE STOCK ******

Page - 1
Date - 10/11/13
Order No. - 136199-000 OR
Brn/Plt - 923

Vendor Name:_____
Payment Terms:_____
F.O.B.:_____
Delivery Date:_____
Ship Via:_____
Signature:_____ _____

SHIP TO City of Oak Ridge - Materials Management
100 Woodbury Lane / P.O. Box 1
Oak Ridge, TN 37830
(865) 425-1819 FAX (865) 482-8475
Lyn Majeski lmajeski@oakridgetn.gov

Lyn Majeski 10/11/13

Ordered - 10/09/13 Freight - Default - Handling Code
Requested - 11/05/13 Taken By -
Delivery - Deliveries are accepted 8 a.m. TO 3 p.m.

Description / Supplier Item		UM	Unit Cost		Extension	Req. Dt
Firefighting Turnout Gear	12.0000	EA	.0000	EA		11/05/13
per attached specifications						

****
Sealed Bids must be received by Tuesday, November 5, 2013
at 2:00 p.m.
****

Sales Tax Total Order

Terms Net Upon Receipt of Tax Rt

CITY OF OAK RIDGE, TENNESSEE
REQUEST FOR QUOTATION No. 136199
GENERAL TERMS AND CONDITIONS

1. PURPOSE

Provide Fire-fighting turnout gear for the City of Oak Ridge Fire Department for new hires and for replacement gear as required throughout the contract period.

2. TERM

One year beginning on the date of award. The City of Oak Ridge may, at its option, extend the contract for up to four (4) additional one-year terms.

3. ESCALATION / DE-ESCALATION

Bid prices shall remain firm for a period of one year from the date of award. The contract prices may be changed after the first year for the following reasons:

a) An increase or decrease in the supplier's cost of materials may be justification for price change; however, this shall not be construed in any way to increase vendor's margin of profit.
b) All written request for price increase must include backup documentation as to the nature of the increase and shall be submitted to the City Purchasing Agent at least 60 days prior to the scheduled price increase/decrease or renewal of contract.
c) Approval of each request shall be by written confirmation from the City Purchasing Agent. If the City of Oak Ridge should consider said increase unwarranted or unreasonable, the City of Oak Ridge reserves the right to terminate the contract with the vendor. Any price decline at the manufacturer's level shall be reflected in an immediate reduction of the contract prices and the vendor shall notify the buyer of said decline.

4. QUANTITY

Quantities listed are estimates for bid purposes only; actual quantities may be more or less.

5. SPECIFICATIONS

If bidding an equal, Bidders must include with their bid specification sheets or information sufficient for thorough evaluation. Failure may be cause for rejection as non-compliant.

6. SAMPLES AND DEMONSTRATION

The City may require Bidders to submit and/or demonstrate samples within one week (7-days) following date of request at no cost to the City. DO NOT SUBMIT SAMPLES UNTIL NOTIFIED TO DO SO. The City of Oak Ridge will not request oversized or over-length samples for the purpose of testing. All samples submitted shall be standard

size and shall be provided at no cost or obligation to the City of Oak Ridge. All samples shall become the property of the City of Oak Ridge unless designated otherwise by the bidder.

7. NEW

The completed bid shall not include components or finished units that are of a prototype nature or that have not been in production for a sufficient period of time.

8. WARRANTY

The City of Oak Ridge desires a minimum 5 year warranty on materials and workmanship. A copy of the manufacturer's warranty shall be provided with the bid. Warranty shall include repair to the satisfaction of the City of Oak Ridge Fire Department or replacement at no additional cost to the City. The Contractor shall be responsible for all transportation costs incurred during the warranty period. The City of Oak Ridge Fire Department shall be furnished a "no charge" invoice for all work performed under warranty indicating type of work performed and materials replaced.

9. SIZING

Contractor shall fit-test each individual to size at no additional cost to the City of Oak Ridge. The City of Oak Ridge desires the Contractor to perform this service within one week from date of order.

10. DELIVERY

The City of Oak Ridge desires delivery within 60 days from the date of sizing. Bidder shall provide their best delivery date on the Bid Form.

11. INSPECTION

All merchandise shall be inspected before acceptance by an authorized representative of the Oak Ridge Fire Department for workmanship, appearance and proper functioning of all components, and conformance to all requirements of these specifications. Failure in compliance will be cause for the purchaser to reject all or part of the order. Should deficiencies be found, it shall be the responsibility of the supplier to pack and return the product in question, make necessary corrections or replacements, and return them to the Oak Ridge Fire Department for re-inspection and acceptance.

City of Oak Ridge Fire Department
Protective Garment Specifications for Interior Structural Firefighting
RFQ No. 136199

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

1. OUTER SHELL MATERIAL - JACKETS AND PANTS	Comply _____	Exception _____

The PbiMax outer shell shall be manufactured and constructed of 70/30 PbI dominant Kevlar with Kevlar filament Comfort Twill weave. This outer shell fabric shall have an approximate weight of 7.0 oz. per square yard and must be treated with a durable water-repellent finish. Color of the garments shall be gold.

2. THERMAL INSULATING LINER - JACKET AND PANTS	Comply _____	Exception _____

The thermal liner shall be constructed of 6.8 oz. per square yard Safety Components GLIDE GOLD with Pbi G2; two layers of 20% Pbi / 80% DuPont Aramid aperture spunlace quilt stitched to a to a 60% Kevlar Filament / 40% Nomex / Lenzing spun yarn Face Cloth 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 attached to the moisture barrier and bound together by bias-cut Neoprene coated cotton/polyester around the perimeter. This provides superior abrasion resistance to the less expensive, less durable "stitch and turn" method. Further mention of "Thermal Liner" in this specification shall refer to this section. Note: This thermal liner only available in conjunction with the Stedair Gold or Crosstech black moisture barrier and either a Gemini XT or a PbiMax outer shell.

3. MOISTURE BARRIER - JACKETS AND PANTS	Comply _____	Exception _____

The moisture barrier material shall be STEDFAST (STEDAIR GOLD) ePTFE moisture barrier is engineered using an 80% Nomex / 20% Pbi pajama check substrate and BHA Technologies ePTFE membrane, with an approximate weight of 5.2 oz. per square yard. The Stedair bi-component ePTFE membrane is a combination of micro porous and monolithic technologies. The moisture barrier material shall meet all moisture barrier requirements of NFPA 1971-2013 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. Note: This moisture barrier only available in conjunction with the Glide Gold Pbi G2 thermal liner and either a Gemini XT or a PbiMax outer shell.

4. SEALED MOISTURE BARRIER SEAMS	Comply _____	Exception _____

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.

5. METHOD OF THERMAL LINER/MOITURE BARRIER ATTACHMENT FOR JACKETS AND PANTS	Comply _____	Exception _____

The thermal liner and moisture barrier shall be completely removable from the jacket shell. Two strips of 5/8 inch wide FR Velcro 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 snap fasteners appropriately spaced on each jacket facing and Ara-Shield snap fasteners at each sleeve end. One of the Ara-shield snap tabs shall be a different color in the liner to correspond with color coded snap tabs for ease of matching the liner system to the outer shell after inspection or cleaning is completed.

The thermal liner and moisture barrier shall be completely removable from the pant shell. Nine snap fasteners shall be spaced along the waistband to secure the thermal liner to the shell. The legs of the thermal liner/moisture barrier shall be secured to the shell by means of Ara-Shield snap fasteners, 2 per leg. The Ara-shield snap tabs shall be color coded to a corresponding snap tab in the liner for ease of matching the liner system to the outer shell after inspection or cleaning is completed.

6. THERMAL PROTECTIVE PERFORMANCE	Comply _____	Exception _____

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.

7. STICHING	Comply _____	Exception _____

The outer shell shall be assembled using stitch type #301, #401, #514 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. Major A outer shell structural seams, major B structural liner seams and shall have a minimum of 8 to 10 stitches per inch.

JACKET CONSTRUCTION

8. BODY	Comply _____	Exception _____

The body of the shell and AXTION liner system shall be constructed of three separate 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. One-piece outer shells shall not be acceptable.

9. SIZING	Comply _____	Exception _____

The jacket length shall be measured from the juncture of the collar and back panels to the hem of the jacket and shall measure 29 inches in the front/33 inches long in the back (standard)

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.

10. DRAG RESCUE DEVICE (DRD)	Comply _____	Exception _____

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 an FR 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.

11. LINER ACCESS OPENING - JACKET	Comply _____	Exception _____

The liner system of the jacket shall incorporate an opening at each of the leading edges of the left and right front panels. This opening shall run a minimum of 12 inches along the perimeters for the purpose of inspecting the integrity of the jacket liner system. When installed into the outer shell the Liner Access Opening will be covered and protected by the overlap of the outer shell facing.

12. RETROREFLECTIVE FLUORESCENT TRIM	Comply _____	Exception _____

The retroreflective fluorescent trim shall be lime/yellow 3M Scotchlite Triple Trim (L/Y borders with silver center). 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 and OSHA. The trim shall be in the following widths and shall be NYC style; 3 inch wide stripes - around the bottom of the jacket within approximately 1 inch of the hem, around the back and chest area approximately 3 inches below the armpit, around each sleeve below the elbow, around each sleeve above the elbow.

13. REINFORCED TRIM STITCHING	Comply _____	Exception _____

All reflective trim is secured to the outer shell with Nomex thread, using a locking chain stitch protected by our exclusive TrimTrax system. 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.

14. SEWN ON RETROREFLECTIVE LETTERING	Comply _____	Exception _____

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

Each jacket shall have an option for either 2" or 3" lime/yellow 3M Scotchlite lettering below the bottom trim band reading: (FF NAME)

15. FR VELCRO LETTER PATCH	Comply _____	Exception _____

Lettering below the bottom trim band will be on a FR Velcro letter patch. The patch shall be constructed of a double layer of outer shell material. The letter patch will attach to the back of the jacket with FR Velcro hook & loop fastener tape.

16. COLLAR AND FREE HANGING THROAT TAB	Comply _____	Exception _____

The collar shall consist of a four-layer construction and be of two-piece design. The outer layers shall consist of one layer of specified outer shell material on outside and a layer of PCA black Advance as standard on the inside and two layers of specified moisture barrier. The rear inside ply of aramid pajama check shall be sewn to the collar's back layer of outer shell at the edges only. The forward inside ply 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 a minimum of 3 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 outer shell and moisture barrier shall be joined to the body panels with two rows of stitching. Inside the collar, above the rear seam where it is joined to the shell shall be a strip of ⅝ inch wide FR Velcro loop fastener tape running the full length of the collar. The collar's front layers of moisture barrier and outer shell shall have an additional strip of ⅝ inch wide FR Velcro hook fastener tape stitched to the inside lower edge and running the full length of the collar. These two inside strips of ⅝ inch wide FR Velcro fastener tape sewn to the underside of the collar shall engage corresponding pieces of FR Velcro fastener tape on the neck extension of the liner system. A self-material fabric hanger loop shall be sewn at the top of collar.

The throat tab shall be a scoop type design and constructed of two plies of outer shell material with two center plies of moisture barrier material. The throat tab shall measure not less than 2½ inches wide at the center tapering to 2 inches at each end with a total length of approximately 7½ inches. The throat tab will be attached to the right side of the collar by a 1 inch wide by 1½ inch long piece of Nomex twill webbing. The throat tab shall be secured in the closed and stowed position with FR Velcro hook and loop fastener tape. The FR Velcro hook and loop fastener tape shall be oriented to prevent exposure to the environment when the throat tab is in the closed position. A 1½ inch by 3 inch piece of FR Velcro loop fastener tape shall be sewn horizontally to the inside leading end of the throat tab and a 1½ inch by 3 inch piece of FR Velcro hook fastener tape shall be sewn horizontally to the opposite end of the throat tab. A corresponding piece of FR Velcro hook fastener tape measuring 1½ inches by 3 inches shall be sewn horizontally to the leading outside edge of the collar on the left side, for attachment and adjustment when in the closed position and wearing a breathing apparatus mask. The collar closure strap shall fold in half for storage with the FR Velcro loop fastener tape engaging the FR Velcro hook fastener tape.

17. JACKET FRONT	Comply _____	Exception _____

The jacket shall incorporate separate facings to ensure there is no interruption in thermal or moisture protection in the front closure area. The facings shall measure approximately 3 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. A breathable moisture barrier material shall be sewn to the jacket facings and configured such that it is sandwiched between the jacket facing and the inside of the respective body panel. The breathable film side shall face inward to protect it. There shall be wicking barrier constructed of Crosstech 2F moisture barrier material installed on the front closure system on the left and right side directly below the front facings to ensure continuous protection and overlap. The thermal liner and moisture barrier assembly shall be attached to the jacket facings by means of snap fasteners.

18. STORM FLAP	Comply _____	Exception _____

A rectangular storm flap measuring approximately 3¼ inches wide and a minimum of 21 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 jacket. The outside storm flap shall be constructed of two plies of outer shell material with a center ply of breathable Crosstech 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 backtacks.

19. STORM FLAP AND JACKET FRONT CLOSURE SYSTEM	Comply _____	Exception _____

The jacket shall be closed by means of a 20 inch size #10 heavy duty high-temp smooth-gliding YKK Vislon zipper on the jacket fronts and FR Velcro fastener tape on the storm flap. The teeth of the zipper shall be mounted on black Nomex® tape 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 with FR Velcro fastener tape. A 1½ inch piece of FR Velcro loop fastener tape shall be installed along the leading edge of the storm flap on the underside with four rows of stitching. A corresponding 1½ inch piece of FR Velcro hook fastener tape shall be sewn with four rows of stitching to the front body panel and positioned to engage the loop fastener tape when the storm flap is closed over the front of the jacket.

20. SEMI-EXPANSION (BELLOWS) POCKETS	Comply _____	Exception _____

Each jacket front body panel shall have a 8 inch wide by 8 inch high semi-expansion pocket double stitched to it and shall be located to provide accessibility. The leading edge of the pockets shall be sewn flush with the jacket. The rear of the pockets shall expand to a depth of 2 inches. *The semi-expansion pocket shall be reinforced with a layer of Kevlar approximately 5 inches up on the inside of the pocket.* Two rust resistant metal drain eyelets shall be installed in the bottom of each semi-expansion pocket to facilitate drainage of water. The pocket flaps shall be 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 pocket flaps shall be angled with the front edge 1" shorter than the back edge, the upper pocket corners shall be reinforced with proven backtacks, and pocket flaps shall be reinforced with backtacks. The pocket flaps shall be closed by means of FR 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.

Additionally, a separate hand warmer pocket compartment will be provided <u>under</u> the expandable cargo pocket. This compartment will be accessed from the rear of the pocket and shall be lined with Nomex fleece for warmth and comfort.

21. AXTION SLEEVES	Comply _____	Exception _____

The sleeves shall be of two piece construction, having an upper and a lower sleeve. Both the under and upper sleeve shall be graded in proportion to the chest size. For unrestricted movement, on the underside of each sleeve there shall be two outward facing pleats located on the front and back portion of the sleeve on the shell and thermal liner. On the moisture barrier, the system will consist of two darts, rather than pleats, to allow added length in the under sleeve. The moisture barrier darts will be seam sealed to assure liquid resistance integrity.

The pleats shall expand in response to upper arm movement and shall fold in on themselves when the arms are at rest. This expansion shall allow for greater multi-directional mobility and flexibility in the shoulder and arm areas, with little restriction or jacket rise. Neither stove-pipe nor raglan-style sleeve designs will be considered acceptable.

22. SLEEVE CUFF REINFORCEMENTS	Comply _____	Exception _____

The sleeve cuffs shall be reinforced with an extra layer of outer shell material. The cuff reinforcements shall not be less than 2 inch 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; a single row of stitching shall be considered unacceptable. This independent cuff provides an additional layer of protection as compared to a turned and stitched cuff. Jackets finished with a turned and stitched cuff do not provide the same level of abrasion resistance and will be considered unacceptable.

23. WRISTLETS / SLEEVE WELLS	Comply _____	Exception _____

Each jacket shall be equipped with Nomex hand and wrist guards (over the hand) not less than 7 inches in length and of double thickness. A separate thumbhole with an approximate diameter of 2 inches shall be recessed approximately 1 inch from the leading edge. The color of the wristlets shall be white.

The wristlets shall be sewn to the end of the liner sleeves. Crosstech moisture barrier material shall be sewn to the inside of the sleeve shell approximately 5 inches from the sleeve end and extending toward the cuff forming the sleeve well. The Crosstech sleeve well shall form a cuff end that shall be elasticized providing a snug fit at the wrist and covering the knit wristlet. This sleeve well configuration serves to prevent water and other hazardous elements from entering the sleeves when the arms are raised. The Crosstech moisture barrier material shall also line the inside of the sleeve shell from the cuff to a point approximately 5 inches back, where it joins the sleeve well and is double stitched to the shell. Two Ara-shield 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 snap tabs on the liner sleeves. One of the Ara-shield snap tabs shall be a different color in the liner to correspond with color coded snap tabs for ease of matching the liner system to the outer shell after inspection or cleaning is completed. This configuration will ensure there is no interruption in protection between the sleeve liner and wristlet.

24. LINER SHOULDER THERMAL ENHANCEMENT	Comply _____	Exception _____

A minimum of one additional layer of thermal liner material shall be used to increase thermal insulation in the 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 5" to the front, 2" to the back of the shoulder cap. The 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. The thermal enhancement layer shall have finished edges by means of overedging. Raw or unfinished edges shall be considered unacceptable. Thermal scraps shall not be substituted for full-cut fabric padding. Smaller CCHR reinforcements shall not be considered acceptable since they provide far less area of coverage.

25. RADIO POCKET	Comply _____	Exception _____

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 jacket 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 FR Velcro fastener tape. A 1½ inch by 3 inch piece of FR Velcro hook fastener tape shall be installed 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 impermeable barrier material to ensure that the radio is protected from the elements. The impermeable 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 2 inches deep by 3 inches wide by 9 inches high and shall be installed on the left chest. Note: radio pocket 6-inch and over in height requires trim.

26. MICROPHONE STRAP	Comply _____	Exception _____

A strap shall be constructed to hold a microphone for a portable radio. It shall be sewn to the jacket at the ends only. The size of the microphone strap shall be 1 inch x 3 inches. The microphone strap shall be mounted above the radio pocket and shall be constructed of double layer outer shell material. A second microphone strap shall be mounted on the upper right chest.

27. SURVIVOR FLASHLIGHT HOLDER	Comply _____	Exception _____

Each jacket shall be equipped with a “Survivor” flashlight holder. An inward facing metal safety coat hook shall be triple riveted in a vertical position to the upper chest. The inward facing coat 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 2½ inch FR Velcro® closure at the front of the strap to facilitate easy removal of the flashlight. There shall be approximately 3 inches between the upper coat hook and lower strap. The "Survivor" flashlight holder shall be sewn to the jacket on the right chest.

PANT CONSTRUCTION

28. BODY	Comply _____	Exception _____

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 thread. The body panels and seam lengths shall be graded to size to assure accurate fit in a broad range of sizes.

The front body panels will be wider than the rear body panels to provide more fullness over the knee area. This is accomplished by rolling the side leg seams (inside and outside) to the rear of the pant leg beginning at the knee. The slight taper will prevent premature wear of the side seams by pushing them back and away from the primary high abrasion areas encountered on the sides of the lower legs.

29. SIZING	Comply _____	Exception _____

In order to insure that every member of the department can safely perform to the maximum of their ability without extra bulk and without restriction, Pants shall be available in all sizes and dimensions as follows:

Gender: Gender specific Men's and Women's patterns

Waist: Even sizes ranging from 24 to 56

Body Shape: Relaxed and Regular Note: Relaxed is a fuller cut in the hips and thighs, like relaxed jeans.

Inseam: Even sizes

Pants available in only one standard shape will not be acceptable. Generalized sizing, such as small, medium, large, etc., will not be considered acceptable.

30. PANT LINER SYSTEM	Comply _____	Exception _____

The combined moisture barrier and the thermal liner shall be completely removable for the pant. The thermal liner and moisture barrier layers of the liner system shall be stitched together and bound around the top waist and cuffs with Bias-Cut Neoprene coated cotton/polyester binding for a finished appearance that prevents fraying and wicking of contaminants.

The body of the liner system (thermal liner & moisture barrier) shall be of a four piece design to match the cut of the shell to include the rolled back side seams. The design of the liner system will incorporate darts in the knee area providing a contour to the leg and will also have a reverse boot cut at the rear of the liner cuff and a concave cut at the front to keep the liner from hanging below the shell.

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 pants.

31. LINER ACCESS OPENING - PANT	Comply _____	Exception _____

The liner system of the pant shall incorporate a full length opening along the entire waistline for ease in inspecting the inner layers as well as performing the complete Liner Inspection. The thermal liner and moisture barrier shall be individually bound with a neoprene coated bias cut tape, and joined together with a snap at the center back. There shall be a minimum of 4 snap tabs sewn to the underside of the waistband, with corresponding snaps in the moisture barrier layer to secure the barrier to the shell. As described previously, the pant thermal layer snaps directly to the independent waistband by means of nine snap fasteners.

32. WAISTBAND	Comply _____	Exception _____

The pant design facilitates the transfer of the weight of the pant to the hips instead of the shoulders and suspenders. The waist area of the pants shall be reinforced on the inside with a separate piece of black aramid outer shell material not less than two inches in width. Neoprene coated cotton/polyester shall be sewn to the back of the waistband as a reinforcement. The aramid/Neoprene waistband shall be cut on the bias to allow the waistband to stretch for unrestricted movement and increased comfort. The top edge of the waistband reinforcement shall be double stitched to the outer shell at the top of the pants. 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.

33. BLACK ARAMID BELT WITH BELT LOOPS	Comply _____	Exception _____

Each pant shall include a 2 inch wide belt constructed of aramid webbing material with an adjustable hi-temp thermoplastic Delrin buckle serving as the exterior primary positive locking closure. This buckle shall also provide a quick-release mechanism for donning and doffing. The pants shall be equipped with a minimum of 3 outer shell material belt loops, spaced around the waist to accommodate the aramid belt.

34. EXTERNAL/INTERNAL FLY FLAP	Comply _____	Exception _____

The pants will have a vertical outside fly flap constructed of two layers of outer shell material, with a layer of moisture barrier material sandwiched between. The fly flap shall be double stitched to the left front body panel and shall measure approximately 2 ½ inches wide, with a length graded to size based on waist measurement and reinforced with bartacks at the base. An internal fly flap constructed of one layer of outer shell material, thermal liner and specified moisture barrier, measuring approximately 2 inches wide, with a length graded to size based on waist, shall be sewn to the leading edge of the right front body panel. The inside of the right front body panel shall be thermally enhanced directly under the outside fly with a layer of moisture barrier and thermal liner material.

The underside of the outside fly flap shall have a heavy duty zipper and 1½ inch wide by full length flame resistant hook and loop fastener tape. The teeth of the zipper shall be mounted on Nomex® cloth and shall be sewn into the leading edges of the respective left and right front body panels from the crotch area to the waist band. Flame resistant hook and loop fastener tape shall close the flap. The FR loop portion shall be sewn with four rows of stitching to the inside of the leading edge of the external fly flap. The corresponding portion of FR hook fastener tape shall be sewn with four rows of stitching to the right front body panel positioned to engage the loop portion when the external fly flap is in the closed position.

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

35. RETROREFLECTIVE FLUORESENT TRIM	Comply _____	Exception _____

The pants shall have a stripe of retroreflective fluorescent trim encircling each leg below the knee to comply with the requirements of NFPA #1971 in 3 inch lime/yellow 3M Scotchlite Triple Trim (L/Y borders with silver center). Bottom of trim band shall be located approximately 3" above cuff.

36. REINFORCED TRIM STITCHING	Comply _____	Exception _____

All reflective trim is secured to the outer shell with Nomex thread, using a locking chainstitch protected by our exclusive TrimTrax system. 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.

37. INTERNAL SEAT HARNESS (OPTIONAL)	Comply _____	Exception _____

The internal seat harness shall be certified to NFPA 1983: Standard on Life Safety Rope and Equipment for Emergency Services, as a Class II harness. The harness shall consist of a waist belt, internal leg loops, and an external hardware loop made from 2 inch wide black Kevlar® webbing. All ends of webbing will be reinforced with neoprene or Arashield to prevent raveling. The waist belt shall secure at the front with a hook and an adjustable D-ring closure which also acts as the positive front closure for the pants and shall be graded for the waist size of the pants. The leg loops shall be constructed without hardware and shall be graded for the circumference of the pant legs. The strap connecting each leg loop shall form a continuous loop at the front of the pants made from two combined layers of webbing that will form an A-frame and connection point for the hardware. The leg loops shall be secured to the waist belts by means of a slot formed by an opening in the stitching combining the layers. These slots allow the leg loops to rest lower on the legs for less restriction when the harness is not loaded and snug up higher in the seat when the harness is loaded. The slots also allow the waist belt to be adjusted in size with the leg loops properly positioned between the front belt loops and the front harness closure. The right and left leg loops shall be installed between the outer shell fabric of the pants and the pants liner and the strap from each leg loop shall exit the outer shell behind the front belt loops on each side of the pants front closure. The center of the hardware loop shall be sewn down to narrow the width at its center and reinforced on the inside with a layer of Arashield fabric. Sewn to the outside of the center of the hardware loop shall be a strap of Nomex webbing sewn down at each end to form a loop to secure the pin of the specified ladder hook. The hardware loop shall be sized to form the required size A-frame, to allow the ladder hook to be secured to the keeper strap on the front left side of the pants, to connect to the hardware of the escape system stowed in the right pocket of the pants, to allow use of the ladder hook without deploying the escape system, and to allow the pants to be donned and doffed with all hardware installed by using only the front buckle closure. A D-ring with a sliding bar shall be attached to the hardware loop to connect to the escape system. The ladder hook shall be a CMC ProSeries XL Aluminum Manual-Lock D Carabiner #300241 and shall be supplied with the pants. The escape system (locking carabiner, rope, descender, and hook) is not supplied with the pants.

38. AXTION SEAT	Comply _____	Exception _____

The rise of the rear pant center back seam, from the top back of the waistband to where it intersects the inside leg seams at the crotch, shall exceed the rise at the front of the pant by 8 inches. The longer rear center back seam provides added fullness to the seat area for extreme mobility without restriction when stepping up or crouching and will be graded to size. This feature in combination with other design elements will maintain alignment of the knee directly over the knee pads when kneeling and crawling.

39. EXPANSION (BELLOWS) POCKETS (LEFT SIDE)	Comply _____	Exception _____

One 2" deep x 10" wide x 10" bellows pockets shall be placed over the outer leg seams at thigh level. The pockets shall be sewn to the pant with two rows of lock stitching and shall provide two aluminum eyelets, installed at the bottom of each pocket, for water drainage. *Each pocket shall be reinforced with an additional layer of outer shell material sewn to the inside.* The pocket flaps shall be rectangular in shape, constructed of two layers of outer shell material and double stitched to the outer shell. One piece of 1½ inch by 3 inch FR hook fastener tape on the inside of each pocket flap on each side. One piece of corresponding 1½ inch by 3 inch FR loop fastener tape shall be installed horizontally on the outside of each side of pocket near the top and positioned to engage the hook fastener tape. Each pocket flap shall be reinforced with bartacks at the uppermost corners.

40. EXPANSION (BELLOWS) POCKETS (RIGHT SIDE)	Comply _____	Exception _____

One 2" deep x 10" wide x 10" bellows pockets shall be placed over the outer leg seam at thigh level. The pocket shall be sewn to the pant with two rows of lock stitching and shall provide two aluminum eyelets, installed at the bottom of each pocket, for water drainage. *Each pocket shall be reinforced with an additional layer of outer shell material sewn to the inside.* The pocket flap shall be rectangular in shape and measure approximately 6½" by 11½", constructed of two layers of outer shell material and double stitched to the outer shell. Three pieces of 1½ inch by approximately 4½ inch FR hook fastener tape shall be installed on the inside of each pocket flap (one each side and one in the middle). One continuous piece of corresponding approximately1 ½ inch by 8½ inch FR loop fastener tape shall be installed horizontally on the outside of the pocket near the top and positioned to engage the hook fastener tape. The pocket flap shall be reinforced with bartacks at the uppermost corners. A 2-piece loop constructed of a double layer of outer shell material will be installed under the front edge of the pocket flap. The top and bottom of the loop will attach to each other with a 1 x 1 flame resistant hook & loop fastener tape sewn to ends. Inside the pocket a strap measuring 1½ inches by 12 inches shall run the full vertical height of the pocket where it will secure at the top with hook and loop fastener tape. A second strap shall be installed horizontally. This strap will measure 1 inch by 4 inches and shall be sewn at one end and attach at the other end with hook and loop fastener tape. The straps are specially designed to secure the contents of the pocket and allow for quick release.

41. AXTION KNEE	Comply _____	Exception _____

The outer shell of the pant legs shall be constructed with horizontal expansion pleats in the knee area with corresponding darts in the liner to provide added fullness for increased freedom of movement and maximum flexibility. The pleats shall be folded to open outwardly towards the side seams to insure no restriction of movement. The AXTION knee will be installed proportionate to the pant inseam, in such a manner that it falls in an anatomically correct knee location.

The thermal liner shall be constructed with four pleats 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). On the moisture barrier, the system will consist of two darts, rather than pleats, to allow added length in the under knee. The darts in the liner provide a natural bend at the knee. The pleats and darts in the liner work in conjunction with the expansion panels in the outer shell to increase freedom of movement when kneeling, crawling, climbing stairs or ladders, etc.

42. LINER KNEE THERMAL ENHANCEMENT	Comply _____	Exception _____

A minimum of one additional layer of specified thermal liner and one additional layer of moisture barrier material, measuring a minimum of 9 inches by 11 inches, will be sewn to the knee area of the liner system for added CCHR protection and increased thermal insulation in this high compression area. 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. The thermal enhancement layer shall have finished edges by means of over-edging. Raw or unfinished edges shall be considered unacceptable. Thermal scraps shall not be substituted for full-cut fabric padding. Smaller CCHR reinforcements shall not be considered acceptable since they provide far less area of coverage.

43. KNEE REINFORCEMENTS	Comply _____	Exception _____

The knee area shall be reinforced with a layer of black Dragonhide material. The knee reinforcement shall be centered on the leg to insure proper coverage when bending, kneeling and crawling. The knee reinforcements shall measure 9 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. Knee reinforcements of a smaller size do not provide the same protective coverage and shall be considered unacceptable.

44. PADDING UNDER KNEE REINFORCEMENTS	Comply _____	Exception _____

Padding for the knees shall be accomplished with one layer of Silizone foam sewn, sandwiched between the outer shell and knee reinforcement.

45. PANT CUFF REINFORCEMENTS	Comply _____	Exception _____

The cuff area of the pants shall be reinforced with a layer of black Dragonhide material. The cuff reinforcement shall not be less than 2 inch 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 for a minimum of two rows of stitching. This independent cuff provides an additional layer of protection over a hemmed cuff. Pants that are turned and stitched at the cuff, as opposed to an independent cuff reinforcement, do not provide the same level of abrasion resistance and shall be considered unacceptable.

46. PADDED RIP-CORD SUSPENDERS AND ATTACHMENT	Comply _____	Exception _____

On the inside waistband shall be attachments for the standard "H" style "Padded Rip-Cord" suspenders. There will be four attachments total – 2 front, 2 back. The suspender attachments shall be constructed of a double layer of black aramid measuring approximately ½ inch wide by 3-inches long. They shall be sewn in a horizontal position on the ends only to form a loop. The appearance will be much like a horizontal belt loop to capture the suspender ends.

A pair of "H" style "Padded Rip-Cord" suspenders shall be specially configured for use with the pants. The main body of the suspenders shall be constructed of 2 inch wide black webbing straps. The suspenders shall run over each shoulder to a point approximately shoulder blade high on the back, where they shall be joined by a 2 inch wide horizontal piece of webbing measuring approximately 8-inches long, forming the “H”. This shall prevent the suspenders from slipping off the shoulders. The shoulder area of the suspenders will be padded for comfort by fully encasing the webbing with aramid batting and wrap-around black aramid.

The rear ends of the suspenders will be sewn to 2-inch wide elasticized webbing extensions measuring approximately 8-inches in length and terminating with thermoplastic loops. The forward ends of the suspender straps shall be equipped with specially configured black powder coat non-slip metal slides with teeth. Through the metal slides will be the 9 inch lengths of strap webbing "Rip-Cords" terminating with thermoplastic loops on each end. Pulling on the "Rip-Cords" shall allow for quick adjustment of the suspenders.

Threaded through and attached to the thermoplastic loops on the forward and rear ends of the suspenders will be black aramid suspender attachments incorporating two snap fasteners. The aramid suspender attachments are to be threaded through the suspender attachment loops on the inside waistband of the pants. The aramid suspender attachments will then fold over and attach to themselves securing the suspender to the pants.

47. REVERSE BOOT CUT	Comply _____	Exception _____

The outer shell pant leg cuffs will be constructed such that the back of the leg is approximately 1 inch shorter than the front. The liner will also have a reverse boot cut at the rear of the cuff and a concave cut at the front to keep the liner from hanging below the shell. 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 pant cuffs.

48. THIRD PARTY TESTING AND LISTING PROGRAM	Comply _____	Exception _____

All components used in the construction of these garments shall be tested for compliance to NFPA Standard #1971 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.

49. LABELS	Comply _____	Exception _____

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

Underwriters Laboratories classified mark

Manufacturer's name

Manufacturer's address

Manufacturer's garment identification number

Date of manufacture

Size

50. ISO CERTIFICATION / REGISTRATION	Comply _____	Exception _____

The protective clothing manufacturer shall 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.

51. BETTER BUSINESS BUREAU	Comply _____	Exception _____

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

52. WARRANTY	Comply _____	Exception _____

The manufacturer shall warrant these jackets and pants to be free from defects in materials and workmanship for their serviceable life when properly used and cared for.

53. EXCEPTIONS TO SPECIFICATIONS	Comply _____	Exception _____

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

54. COUNTRY OF ORIGIN	Comply _____	Exception _____

Jackets and Pants shall be manufactured in the United States.

55. SIZING BY VENDOR	Comply _____	Exception _____

Both male and female sizing samples shall be available.