THIS FORM MUST BE COMPLETED, SIGNED AND NOTARIZED TO BE CONSIDERED VALID.

Address To: Michelle Ramey
Sullivan County Purchasing Department
3411 Hwy 126, Ste 201
Blountville, TN 37617-0569
Phone: (423)323-6480 FAX: (423)323-7249
Email: michelle.ramey@sullivancountytn.gov

Date Issued: 05/16/2022

Bid/Quote Number: **12705152201(MR)**

F.O.B.: Blountville

Total Number of Pages: 40

This Invitation to Bid/Quote, subject in the original copy, subject to the terms and conditions on the attachment, will be received by the Purchasing Agent until **2:00 P.M., EST on Tuesday, June 7, 2022.**

In the lower left corner of your envelope addressed to the above, mark your envelope **"Fire Department Turnout Gear"**

Bid/Quote Documentation can be found on-line at:
https://vrapp.vendorregistry.com/Bids/View/BidsList?BuyerID=37b55d57-2b40-462f-bd8e-5b80ab095ddd

****Funding for this bid is provided by the American Rescue Plan Act (ARPA). All entities submitting a bid must be registered in the SAM.gov website to be considered for award.**

**** This Bid Form, Terms & Conditions (Section 28), Cooperative Purchasing Agreement and Specifications must be completed and signed to be accepted.**

Format Accepted: ( ) Online Bid/Quote Only (✓) Hard Copy Bid/Quote Only ( ) Online or Hard Copy

READ THE TERMS AND CONDITIONS BEFORE COMPLETING THIS FORM

Item	Qty	U/I	Description	Unit Price	Total Price
1	**15**	**ea.**	**Agility Jackets – Color: Light Gold (#G7-30)** (Sizes to be determined) See Specifications		
2	**15**	**ea.**	**Agility Pants with Suspenders – Color: Light Gold (#G7-30)** (Sizes to be determined) See Specifications		
3	**28**	**ea.**	**Armor AP Jackets – Color: Tan (#D4-05)** (Sizes to be determined) See Specifications		
4	**28**	**ea.**	**Armor AP Pants with Suspenders – Color: Tan (#D4-05)** (Sizes to be determined) See Specifications		
5	**50**	**ea.**	**Armor AP Jackets – Color: Black (#D4-10)** (Sizes to be determined) See Specifications		
6	**50**	**ea.**	**Armor AP Pants with Suspenders – Color: Black (#D4-10)** (Sizes to be determined) See Specifications		

			Delivery Terms: 1.**Per the ARPA Grant Delivery must be made no later than 12/31/2024**. Please state estimated delivery time: _____		

In compliance with this invitation and subject to all conditions thereof, the undersigned agrees, if this Bid/Quote is accepted within 30 days from the date of the opening, to furnish all of the materials/services upon which prices are proposed, delivered at the designated point(s) within the time specified.

Sullivan County reserves the right to award on a "line item" basis or "all or none" basis, whichever is most advantageous. Sullivan County also reserves the right to award contracts or portions thereof exclusively or to multiple vendors to achieve the best value. Sullivan County reserves the right to reject any and/or all bids.

Terms: NET 30

_____
Signature of Authorized Representative

_____
Printed Name of Authorized Representative

_____
Name of Firm Date

_____
Email Address

Subscribed and sworn to before me this

_____day of _____, 20____,

_____,
Notary Public

My Commission Expires: _____

THIS FORM MUST BE SIGNED AND NOTARIZED TO BE CONSIDERED COMPLETE

GENERAL TERMS AND CONDITIONS

1. SUBMITTAL REQUIREMENTS

Submittals for consideration must be submitted on the form provided *and bear the handwritten signature of an authorized representative of the firm and notarized to be considered valid.* If submitting multiple bids/ proposals in paper form, each must be placed in a separate envelope. Be sure the envelope is completely and properly identified and sealed. Bids/ RFP's/ RFQ's will be read aloud at the specific date and time as stated in the invitation. RFP/RFQs respondent's names only will be read aloud.

All openings are public meetings. Bidders/ proposers and interested persons are invited to attend. The County reserves the right to postpone any solicitation opening under circumstances warranting such action, including but not limited to instances when the County receives fewer than two responses.

Unless otherwise stated by the County, no bidder may withdraw a bid within a period of sixty (60) days after the date set for the opening of bids. Bids and modifications or corrections thereof received after the closing time specified will not be considered. The County is not responsible for delays in delivery by mail, courier, etc.

Any exceptions to these terms and conditions or deviations from written specifications will be shown in writing and attached to the bid form. Any alteration, erasure, addition to or omission of requested information, change of the specifications, or bidding schedule, is made at the risk of the bidder and may result in the rejection of the bid, unless such changes are authorized by the specifications.

2. QUESTIONS / ADDENDA

Failure to examine any drawings, specifications, and instructions will be a bidder's risk. If bidder is in doubt as to the true meaning of any part of the drawings, specifications and instructions or other documents, he should submit a written request for an interpretation to the Purchasing Agent. An interpretation of the documents will be made only by addendum and issued by the Purchasing Agent. The County will not be responsible for explanation or interpretations of bid documents except as issued in accordance herewith. No Addendum will be issued less than two (2) work days prior to the solicitation opening as per TCA, Title 12, Chapter 4, Part 1, as amended.

Where a brand or trade name appears in the specifications, it is understood that the brand or trade name referred to, or its approved equivalent, shall be furnished. If no mention is made of any exceptions, it is assumed that he is bidding on the article mentioned and not an approved equivalent. The bidder is requested to attach brochure-type information on the supplies furnished. All guaranteed and warranties should be clearly stated.

3. DISCREPANCIES

All pricing must appear in the spaces provided by the County's form (if applicable) and be in ink or typed. Changes or corrections by the bidder/proposer must be initialed in ink by the person signing. No corrections may be made in pencil. In case of error or discrepancy in the mathematics of the bid price, the unit prices shall prevail. The County will correct math computation errors (Unit Price & Totals). No bid may be altered or amended after bid opening time. Obvious mistakes will be given special consideration upon receipt of written request and full disclosure or evidence regarding pricing error.

4. SUBMITTAL OF SEALED BIDS/RFP/RFQ/ITQ

Any forms furnished by the County must be completed and returned as specified in the solicitation, otherwise response will be considered as nonresponsive. TELEPHONE, FACSIMILE OR EMAIL RESPONSES WILL NOT BE ACCEPTED UNLESS OTHERWISE INDICATED. Electronic receipt of bids/proposals/quotes is acceptable for those **eligible for online submittal** at: https://vrapp.vendorregistry.com/Bids/View/BidsList?BuyerID=37b55d57-2b40-462f-bd8e-5b80ab095ddd. **Paper Bid/RFP/RFQ submittals shall be sealed in an envelope.** No solicitation received after closing time shall be considered. The official time for paper submittals will be that of the date and time in the Purchasing Department. For electronic bids the official time is that posted on the website. Late submittals will not be accepted. Sullivan County shall not be responsible for technical difficulties experienced by vendors trying to register or submit their Bid/RFP response electronically less than one hour prior to the Bid/RFP/RFQ opening time.

5. TABULATIONS: BIDS/RFP/RFQ/ITQ

Tabulations for Bids/RFP/RFQ/ITQ will be posted on Vendor Registry, which is accessible through the County Purchasing website.

6. AWARD

An award, if made, shall be to the lowest responsible, responsive bidder(s) or best solicitation meeting quality and performance standards as described in the solicitation documents and whose Bid/RFP/Quote is determined to be the best interest of the County. The County also reserves the right to award this product/service based on other contracts in-place (state or cooperative contracts) as may be in our best interest. All contracts or purchase orders issued for this award will be governed by the laws of the State of Tennessee.

7. NO CONTACT POLICY

From the period beginning on the date of the issuance of this ITB any contact initiated by a proposer with any Sullivan County Representative concerning this proposal is strictly prohibited, unless such contact is made with the Purchasing Department Representative listed herein or with said Representative's authorization. Any unauthorized contact may cause the disqualification of the proposer from this Purchasing transaction. The Solicitation form must include an authorized signature and must be notarized for the bid to be accepted.

8. PRORIETARY/CONFIDENTIAL INFORMATION Vendors are hereby notified of all information submitted as part of, or in support of, bids/ proposals will be available for public inspection after award, in compliance with Tennessee Statutes unless the vendor additionally identifies a specific area or scope of data or other materials to be protected and details the reasons protection is necessary.

9. PAYMENT TERMS AND DISCOUNTS

Payment Terms are Net 30 following receipt of the material or service and a correct invoice unless otherwise stated in the solicitation document. Discounts for prompt payment will not be considered in the bid evaluation for award. In the event cash discounts are offered by the bidder, the discount date shall begin with the date of the invoice or the date of the receipt of all material covered by the order/contract, whichever is the later date.

10. CONDITION STANDARDS

It is understood and agreed that any item offered or shipped as a result of this solicitation shall be new and unused and the manufacturer's latest model unless otherwise called for in the solicitation.

11. DEFAULT

Default in promised delivery and failure to comply with specifications authorizes the County to purchase supplies elsewhere and charge the difference to the defaulting vendor.

12. TERM OF CONTRACT

The contract will be awarded for a period of one (1) year with a renewal option on an annual basis in one (1) year increments providing all terms, conditions and cost are acceptable to both parties. The County reserves the right to re-bid at the end of any contract period. The County may cancel any contract for cause, or non-appropriation of funds, following written notification of intent.

13. BREACH OF CONTRACT

A party shall be deemed to have breached the contract if any of the following occurs:

- Failure to provide products or services that conform to the contract requirements.
- Failure to maintain/ submit any report required hereunder.
- Failure to perform in full or in part any of the other conditions of the contract.
- Violation of any warranty.

14. CONTRACT TERMINATION FOR CAUSE

If the Contractor or Vendor fails to properly perform is obligations under this contract or purchase order in a timely or proper manner, or if the contractor violates any terms of this contract, the County shall have the right to terminate the contract and withhold payments in excess of fair compensation for completed services. In the event the contract is terminated for due cause by the County, the County shall have the option of awarding the contract to the next proposer or proposing again.

15. CONTRACT TERMINATION FOR CONVENIENCE

The County may, by written notice to the Contractor or Vendor to terminate this contract without cause for any reason. Said termination shall not be deemed a Breach of Contract by the County. The County must give notice termination to the vendor at least (30) days prior to the effective date of the termination. The Contractor or Vendor shall be entitled to receive compensation for satisfactory, authorized service completed as of the termination date, but in no event shall the County be liable to the Contractor for compensation for any service which has not been rendered. Upon such termination, the vendor shall have no rights to any actual general, special, incidental, consequential, or any other damages whatsoever of any description or amount.

16. ADDITIONAL PURCHASE OPTION

This Bid includes an option to allow Sullivan County, Tennessee the right to purchase additional vehicles/equipment. The County's use of this option will be dependent upon the price offered by the vendor and the availability of funding. The County may exercise this option clause for a period of twelve (12) months after the award of the Bid.

17. DELIVERY

Delivery/completion schedule must be clearly identified and realistically stated, as this may be a determining factor in the award.

18. FOB (FREE-ON-BOARD) POINT

All prices quoted shall be FOB destination, freight prepaid and allowed unless otherwise stated in the solicitation document. The seller pays and bears the freight charges and owns the goods while they are in transit. Title passes at the designated County location.

19. TAXES

The County is exempted from Federal excise taxes and state and local sales taxes and bidders must quote prices which do not include such taxes. An exemption certificate will be furnished upon request.

20. INDEMNIFICATION

The vendor shall guarantee and certify by submitting a response to this solicitation that if successful, they shall indemnify and defend the county against any and all claims or legal actions arising as a result of their performance of the contract, whether or not such claims relate to damages or alleged damages sustained by physical injury to contractors personnel, subcontractors, County employees or other persons, or against any lawsuits arising from alleged or actual patent infringements, and shall hold the County, its various departments, employees, and any and all persons or entities acting on its behalf harmless from the same.

21. INSPECTION

All supplies or materials purchased as a result of this solicitation are subject to inspection and rejection by the County. Rejected materials will be returned at the vendor's expense.

22. INSURANCE

The contractor shall maintain, at their expense, such insurance as required by the solicitation. Such insurance shall protect the County for claims of damages which may arise during operations under this contract whether such operations be by the Contractor or by any Subcontractor or anyone

directly or indirectly employed by either of them. Any required insurance shall be maintained for the term of the contract and beyond the term of the contract when so required in the solicitation.

23. FORCE MAJEURE

In the event that the performance of any obligation under this contract, by either party, is prevented due to acts of God, exchange controls, export or import controls, government restriction, wars, hostilities, blockades, civil disturbances, revolutions, strikes, terrorist attacks, lockouts, pandemics, epidemics, plague, outbreaks of infectious disease, including but not limited to COVID-19, any other public health crisis, including stay at home orders, group size restrictions, travel restrictions, or employee restrictions, issued by the Governor or a public health authority, such as Sullivan County Regional Health Department, or recommendation of the Center for Disease Control or the National Institutes of Health to limit the spread of COVID-19, or any other cause beyond the reasonable control of a party, such party will not be responsible to the other party for failure or delay in performance of its obligations under this Contract. Each party will promptly notify the other party of such Force Majeure condition and make good faith efforts to ensure goods or services are provided as per the contract. However, if Force Majeure conditions occur and both parties mutually agree, this contract may be cancelled. If cancelled, neither party will be considered in breach of contract. If funds have been paid for products or services that have not been received, the vendor will send the County a refund within thirty (30) days of the cancellation.

24. WARRANTY

Unless otherwise specified by the County, all items shall be guaranteed for a minimum period of one (1) year against defects in material and workmanship.

25. EQUAL OPPORTUNITY

It is the policy of Sullivan County to ensure compliance with Title VI of the Civil Rights Act of 1964; 49 CFR, Part 21; related statutes and regulations to that end that no person shall be excluded from participation in or be denied benefits or be subjected to discrimination under any program or activity receiving Federal financial assistance or any other funding source on the grounds of race, color, sex, national origin, or ancestry. By virtue of submitting a response to this solicitation, vendors agree to comply with the same non-discrimination policy.

26. IRAN DIVESTMENT

Pursuant to the Iran Divestment Act Tenn. Code Ann.§ 12-12-106 requires the State of Tennessee Chief Purchasing Officer to publish, using creditable information freely available to the public, a list of persons it determines engage in investment activities in Iran, as described in §12-12-106. Inclusion on this list makes a person ineligible to contract with Sullivan County; if a person ceases its engagement in investment activities in Iran, it may be removed from the list. The State of Tennessee list is available here: http://tennessee.gov/generalservices/article/Public-Information-Library Submission of this bid/quote/proposal, each vendor and each person signing on behalf of any vendor certifies, and in the case of a joint bid/quote/proposal, each party thereto certifies as to its own organization, under penalty of perjury, that to the best of its knowledge and belief that each vendor is not on the list created pursuant to § 12-12-106

27. NON-COLLUSION AGREEMENT

By submitting this solicitation, the agent representing all officers, partners, owners, representatives, employees or interested parties of the vendor's firm certifies to the best of his/her knowledge and belief this bid/proposal submitted to Sullivan County, Tennessee has not been prepared in collusion with any other seller, proprietor, or manufacturer of similar products or services. The agent also certifies that the prices, terms, and conditions of said bid/proposal have been arrived at independently and have not been communicated by the submitter, nor by any of the aforementioned firm associate to any other seller, proprietor, or manufacturer of similar products or services and will not be communicated prior to the official opening of said solicitation. The agent further states that no official or employee of Sullivan County, Tennessee has promised any personal, financial, or other beneficial interest, either directly or indirectly, in order to influence award of this solicitation.

28. CONFLICT OF INTEREST

a) No Board Member or officer of the County or other person whose duty it is to vote for, oversee or in any manner superintend any of the work for the County has a direct interest in the award of the vendor providing goods or services.

b) No employee, officer or agent of the grantee or sub-grantee will participate in selection, or in the award or administration of an award supported by Local, State or Federal funds if a conflict of interest, real or apparent, would be involved. Such a conflict would arise when the employee, officer or agent, any member of their immediate family, his or her partner, or an organization, which employs, or is about to employ, any of the above, has a financial or other interest in the firm selected for award.

c) The grantees or sub-grantees officers, employees or agents will neither solicit nor accept gratuities, favors or anything of monetary value from vendors, potential vendors, or parties to sub-agreements.

d) Do you or any officers/part-owners/stakeholders/employees of this company have any relative(s) (relatives include spouse, children, stepchildren, or any to whom you are related by blood or marriage) that are currently employed by Sullivan County, Tennessee, including the Sullivan County School System or serve on the Sullivan County Commission or the Sullivan County Board of Education? _____Yes _____No If you answered yes, please state the name and relationship of the employee or member of Sullivan County Commission or Sullivan County Board of Education member _____

e) Are you or any officers/part-owners/stakeholders/employees of this company also employees of Sullivan County, including the Sullivan County School System or serve on the Sullivan County Commission or Sullivan County Board of Education? _____Yes _____No
If you answered yes, please state the name of the employee or Commission member or Board member

_____

f) By submission of this bid, the vendor is certifying that no conflicts of interest exist.

29. DRUG FREE WORKPLACE REQUIREMENTS

Private employers with five or more employees desiring to contract for construction services attest that they have a drug free workplace program in effect in accordance with TCA 50-9-112.

30. ELIGIBILITY

The vendor is eligible for employment on public contracts because no convictions or guilty pleas or pleas of nolo contender to violations of the Sherman Anti-Trust Act, mail fraud or state criminal violations with an award from the State of Tennessee or any political subdivision thereof have occurred.

31. PROTEST POLICY

Any protest to a bid award by Sullivan County shall be submitted in writing to the Purchasing Agent with a copy to the Sullivan County Mayor and delivered not later than seven (7) calendar days from the date of the county's award decision. Such protest must include a protest bond in the amount of $350 (Cashier's Check payable to the Sullivan County Trustee or Cash) submitted to the Purchasing Agent before the County will consider the protest. This protest bond will serve as a guarantee by the protester of the validity and accuracy of the protest. If the protest is denied by the County Mayor, the bond will be retained to cover costs associated with the protest. The steps for dispute resolution may include:

- A meeting with the Purchasing Agent, the requisitioning Department Manager, and representatives from the disputing party to discuss and resolve the complaint.
- Information from the aforementioned meeting will be forwarded to the County Attorney for review.
- A written decision letter stating the reasons for the decision will be prepared by the Purchasing Agent and submitted in writing to the protester and all parties involved.
- Purchases will not be allowed under this procurement until a final decision is rendered.
- In the event that purchases must be made before a final decision is rendered, the emergency purchase procedure will be used.

32. GOVERNING LAW

All contracts or purchase orders issued for this award will be governed by the laws of the State of Tennessee. Arbitration is not permitted and if disputes arise between the parties concerning any aspect of the contract and /or purchase order and it cannot be resolved by mutual agreement, any party may resort to resolution of the dispute by litigation in the state or federal courts for Sullivan County, Tennessee. The parties waive their right to jury trial. Mandatory and exclusive venue and jurisdiction for any disputes shall be in state or federal courts for Sullivan County, Tennessee.

33. BACKGROUND CHECK REQUIREMENT FOR SCHOOL SYSTEM SUPPLIERS

a) In submitting this bid/quote/proposal, you are certifying that you are aware of the requirements imposed by TCA § 49-5-413 (d) to conduct criminal background checks through the Tennessee Bureau of Investigation and the Federal Bureau of Investigation on yourself and any of your employees who may come in direct contact with students or who may come on or about school property anytime students are present. You are further certifying that at no time will you ever permit any individual who has committed a sexual offense or who is a registered sex offender to come in direct contact with children or to come on or about school property while students are present.

34. BUY AMERICA REQUIREMENTS

Vendor agrees to comply with 49 C.F.R. part 661 and 2 CFR § 200.322 Domestic Preferences for procurements, which provide that Federal Funds may not be obligated unless all steel, iron and manufactured products used in federally funded projects are produced in the United States, unless a waiver has been granted or the products is subject to a general waiver. General Waivers are listed in 49 C.F.R. § 661.7. By submission of this bid/quote/proposal, each vendor and each person signing on behalf of any vendor certifies compliance with the Buy America Requirement.

35. CLEAN AIR ACT

Vendor agrees to comply with all applicable standards, orders, or regulations issued pursuant to the Clean Air Act (42 U.S.C. § 7401-7671q.)

36. FEDERAL WATER POLLUTION CONTROL ACT

(1) Vendor agrees to comply with all applicable standards, orders, or regulations issued pursuant to the Federal Water Pollution Control Act, as amended, 33 U.S.C. 1251 et Seq.

(2) Vendor agrees to report each violation to the Agency and understands and agrees that the Agency will, in turn, report each violation as required to assure notification to the Federal Emergency Management Agency, and the appropriate Environmental Protection Agency Regional Office. (3) Vendor agrees to include these requirements in each subcontract exceeding $150,000 financed in whole or in part with Federal Assistance.

37. SUSPENSION AND DEBARMENT

Federally Funded procurements must not be awarded to parties that are listed on the governmentwide exclusions in the System for Award Management (SAM.gov), in accordance with the OMB guidance at 2 C.F.R. 180 that implement Executive Orders 12549 (3 C.F.R. part 1986 Comp., p. 189) and 12689 (3 C.F.R. part 1989 Comp., P.235). "Debarment and Suspension" Sam exclusions contain the names of the parties debarred, suspended, or otherwise excluded by agencies, as well as parties declared ineligible under statutory or regulatory authority other than Executive Order 12549. Entities must be registered in the SAM.gov website to be considered for award.

(1) Any agreement or award resulting from this bid is a covered transaction for purposes of 2 C.F.R. pt. 180 and 2 C.F.R. pt. 3000. As such, the vendor is required to verify that none of the vendor's principals (defined at 2 C.F.R. § 180.995) or its affiliates (defined at 2 C.F.R. § 180.905) are excluded (defined at 2 C.F.R. § 180.940) or disqualified (defined at 2 C.F.R. § 180.935).

(2) The vendor must comply with 2 C.F.R. pt. 180, subpart C and 2 C.F.R. pt. 3000, subpart C, and must include a requirement to comply with these regulations in any lower tier covered transaction it enters into.

(3) By Submission of this bid, vendor is certifying compliance with the requirements of 2 C.F.R. pt. 180, subpart C and 2 C.F.R. pt. 3000, subpart C while this offer is valid and throughout the period of any contract or award that may arise from this offer.

38. BYRD ANTI-LOBBYING AMENDMENT

Vendors who bid for award of $100,000 or more shall provide the required certification. Each tier certifies to the tier above that it will not and has not used federal appropriated funds to pay any person or organization for influencing or attempting to influence an office or employee of a member of any agency, a member of Congress, officer or employee of Congress, or an employee of a member of Congress in connection with obtaining any Federal contract, grant or any other award covered by 31 U.S.C. § 1352. Each tier shall also disclose any lobbying with non-federal funds that takes place in connection with obtaining any Federal award. Such disclosures are forwarded from tier to tier up to the Agency. By submission of this bid, vendor is certifying compliance with these requirements.

39. PROCUREMENT OF RECOVERED MATERIALS

A non-Federal entity that is a state agency or agency of a political subdivision of a state and its contractors must comply with section 6002 of the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act. The requirements of Section 6002 include procuring only items designated in guidelines of the Environmental Protection Agency (EPA) at 40 C.F.R. part 247 that contain the highest percentage of recovered materials practicable, consistent with maintaining a satisfactory level of competition, where the purchase price of the item exceeds $10,000 or the value of the quantity acquired during the preceding fiscal year exceeded $10,000; procuring solid waste management services in a manner that maximizes energy and resource recovery; and establishing an affirmative procurement program for procurement of recovered materials identified in the EPA guidelines.

(1) In the performance of this contract, the vendor shall make maximum use of products containing recovered materials that are EPA-designated items unless the product cannot be acquired-

i. Competitively within a timeframe providing for compliance with the contract performance schedule;

ii. Meeting contract performance requirements; or iii. At a reasonable price.

(2) Information about this requirement, along with the list of EPA-designate items, is available at EPA's Comprehensive Procurement Guidelines website, https://www.epa.gov/smm/comprehensive-procurement-guideline-cpg-program.

40. ACCESS TO RECORDS AND REPORTS

(1) Record Retention. The vendor will retain and will require any subcontractors of all tiers to retain, complete and readily accessible records related in whole or in part to the contract, including, but not limited to, data, documents, reports, statistics, sub-Contracts, leases, subcontracts, arrangements, other third-party Contracts of any type, and supporting materials related to those records.

(2) Retention Period. The vendor agrees to comply with the record retention requirements in accordance with 2 C.F.R. § 200.333. The vendor shall maintain all books, records, accounts, and reports required under this Contract for a period of at not less than three (3) years after the date of termination or expiration of this Contract, except in the event of litigation or settlement of claims arising from the performance of this Contract, in which case records shall be maintained until the disposition of all such litigation, appeals, claims or exceptions related thereto.

(3) Access to Records. The vendor agrees to provide sufficient access to the Federal and State Government and its contractors to inspect and audit records and information related to performance of this contract as reasonably may be required.

(4) Access to the Sites of Performance. The vendor agrees to permit Federal and State Government and its contractor's access to the sites of performance under this contract as reasonably may be required.

41. COMPLIANCE WITH FEDERAL LAW, REGULATIONS AND EXECUTIVE ORDERS

Vendor acknowledges that Federal Grant Funds will be used to fund all or a portion of this bid. The Vendor agrees to comply with all applicable Federal law, regulations, executive orders, policies, procedures, and directives.

42. NO OBLIGATION BY FEDERAL GOVERNMENT

The Agency and Vendor acknowledge and agree that, notwithstanding any concurrence by the Federal Government in or approval of the solicitation or award of the underlying Contract, absent the express written consent by the Federal Government, the Federal Government is not a party to this Contract and shall not be subject to any obligations or liabilities to the Agency, Vendor, Contractor, or any other party (whether or not a party to that contract) pertaining to any matter resulting from the underlying Contract.

43. PROGRAM FRAUD AND FALSE OR FRAUDULENT STATEMENTS AND RELATED ACTS

The Vendor acknowledges that 31 U.S.C. Chap. 38 (Administrative Remedies for False Claims and Statements) applies to the vendor's actions pertaining to any contract resulting from this bid.

44. SIGNATURE REQUIREMENTS

All submittals must contain the full name of the company, must be signed by a person authorized to bind that company to a contract and notarized. Submission response to the solicitation constitutes acceptance of all terms and conditions included herein. Unsigned forms will not be considered, read, or tabulated. Bid forms may not be signed during or after the bid opening, even if a representative is present.

GENERAL PROVISIONS

1. The products requested shall be furnished complete and in readiness for use. Awarded vendor must be willing to conduct in person sizing sessions at multiple locations. All brand names mentioned in this bid are due to the standardization of equipment in departments.

2. Special Awarding Criteria. While the purpose of the bid document is to indicate certain minimum requirements, its use is not intended to relieve Sullivan County of all responsibility in making a selection which is the most suitable for the Fire Departments in Sullivan County. Although proposals may be received based on the minimum requirements indicated, it is not intended that this alone shall limit the award, but other factors will be considered, including the experience of Sullivan County and others.

3. Trade-in. N/A

4. Optional Equipment. N/A

5. Specifications: See attached ***Specifications - Agility*** and ***Specifications - Armor AP*** – pages 11 - 40.

6. Bidder is requested to fill out the Bid Form, General Terms and Conditions (Page 5, Section 28), Cooperative Purchasing Agreement, Specifications and attach any applicable product data information.

7. Any additions, deletions, variations from attached specifications must be noted. Any items appearing in manufacturer's regular published specifications furnished by bidder are assumed to be included in the "Bidder's Proposal".

8. Piggybacking/ Cooperative Purchasing. Per T.C.A § 12-3-1203(c), it is Sullivan County's intent to extend all bid pricing received to other municipalities and governmental entities that wish to piggyback on this bid. All bidders will need to indicate whether they shall extend pricing to other entities upon request by completing the attached Cooperative Purchasing Agreement. Inclusion is not mandatory and will have no bearing on this contract award.

Cooperative Purchasing Agreement

Per T.C.A.§12-3-1203(c) Sullivan County would like to make the same pricing structures available to other local municipalities and government agencies. Bidder will need to indicate whether they shall extend pricing. Inclusion is not mandatory and will have no bearing on this contract award.

All Billings for items purchased under this agreement by other municipalities or government agencies shall be directed to the agency making the purchase. All items purchased under this agreement will be shipped directly to the agency making the purchase. Sullivan County shall not be responsible for any problems, which may arise between municipalities or government agencies that choose to utilize this bid and the bidder as a result of any sales and/ or purchases made.

Agree to extend pricing to other Municipalities or Government Agencies _____

Do not agree to extend pricing to other Municipalities or Government Agencies _____

Vendor: _____

Authorized Representative: _____
Printed Name

Signature: _____

Date:_____

Fire Department Turnout Gear

The Sullivan County Purchasing Department on behalf of the various Fire Departments in Sullivan County, is soliciting competitive, sealed bids from qualified vendors for the purchase of Fire Department Turnout Gear. The following is a list of the requested gear by Department location:

Quantities **(in bold)**: - Vendor representative shall be on site to ensure proper sizing

East Fire Department

- **10** – Agility Jackets – Color: Light Gold (#G7-30)
- **10** – Agility Pants with Suspenders – Color: Light Gold (#G7-30)

Sullivan County Fire Department

- **5** – Agility Jackets – Color: Light Gold (#G7-30)
- **5** – Agility Pants with Suspenders – Color: Light Gold (#G7-30)

Bluff City Fire Department

- **12** – Armor AP Jackets – Color: Tan (#D4-05)
- **12** – Armor AP Pants with Suspenders – Color: Tan (#D4-05)

Hickory Tree Fire Department

- **10** – Armor AP Jackets – Color: Tan (#D4-05)
- **10** – Armor AP Pants with Suspenders – Color: Tan (#D4-05)

Piney Flats Fire Department

- **6** – Armor AP Jackets – Color: Tan (#D4-05)
- **6** – Armor AP Pants with Suspenders – Color: Tan (#D4-05)

421 Fire Department

- **9** – Armor AP Jackets – Color: Black (#D4-10)
- **9** – Armor AP Pants with Suspenders – Color: Black (#D4-10)

Bristol City Fire Department

- **41** – Armor AP Jackets – Color: Black (#D4-10)
- **41** – Armor AP Pants with Suspenders – Color: Black (#D4-10)

SPECIFICATIONS – AGILITY
PROTECTIVE JACKET & PANT
FOR STRUCTURAL FIRE FIGHTING

SCOPE

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 fire fighting. All materials and construction will meet or exceed NFPA Standard #1971 and OSHA for structural fire fighters protective clothing.

_____Comply _____Exception

SIZING

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, Jackets shall be available in all sizes and dimensions as follows:

Jackets:

Gender:	Gender specific Men's and Women's patterns will be available.
Chest:	Even sizes
Back Length:	Men's 29 inches, 32 inches, 35 inches, 40 inches Women's 26 inches, 29 inches
Body Shape:	Men's: Straight and Tapered Note: The straight cut offers more fullness at the hips (i.e. jacket sweep) and is recommended when an IH Ready pant is being specified. Women's: Straight
Sleeve:	1 inch increments

Jackets available in only one standard shape will not be acceptable.

_____Comply _____Exception

OUTER SHELL MATERIAL - JACKETS

The outer shell shall be constructed of TENCATE **"AGILITY™:** featuring **ENFORCE™** technology Kevlar®/PBO/ Nomex® blend material with an approximate weight of 6.6 oz. per square yard in a twill weave. The shell material must be treated with a durable water-repellent finish that offers resistance to liquid absorption. Color of the garments shall be light gold.

_____Comply _____Exception

THERMAL INSULATING LINER - JACKET

The thermal liner shall be constructed of 6.7 oz. per square yard TENCATE **CALDURA® ELITE NOMEX NANO® ;** one layer of Nomex Nano and one layer of 2.3 oz. per square yard Nomex® E-89™ spunlaced Nomex®/Kevlar® aramid blend, quilt stitched to a Kevlar filament and FR Rayon/meta-aramid/ nylon inherently wicking Caldura® face cloth. A pocket, constructed of thermal liner over-edged to a layer of moisture barrier material, shall be affixed to the inside of the jacket thermal liner on the left side by means of a single needle stitch. The thermal liner shall be sewn to the moisture barrier and shall be independently bound around its 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.

_____Comply _____Exception

MOISTURE BARRIER - JACKETS

The moisture barrier material shall be W.L. GORE **CROSSTECH® Black moisture barrier** - Type 2F, which is comprised of a CROSSTECH® membrane laminated to a Nomex® IIIA woven pajama check substrate. The CROSSTECH® membrane is an enhanced bicomponent membrane comprised of an expanded PTFE (polytetrafluoroethylene, for example Teflon®)

matrix having a continuous hydrophilic (i.e. water-loving) and oleophobic (i.e. oil-hating) coating that is impregnated into the matrix. CROSSTECH® moisture barrier seams shall be sealed with GORE-SEAM® tape using a Series 6000 (or higher) GORE-SEAM™ sealing machine to afford comparable bacteriophage penetration resistance performance. 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 FOR JACKETS

The thermal liner and moisture barrier shall be completely removable from the jacket shell. A minimum of six snap fasteners shall secure the thermal liner/moisture barrier to the outer shell along the length of the neck line under the top most collar. The top most collar shall be turned under and finished such that the snaps on the collar will not be able to contact the wearers skin. Corresponding snaps shall be installed through a moisture barrier leader measuring an approximate height of 1.75 – 2 inches and shall not penetrate through to the outer shell on the backside of the collar. 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. There shall be one Ara-shield® snap tabs at the liner sleeve end which shall be colored to correspond with color coded snap tabs on the shell sleeve end for ease of matching the liner system to the outer shell after inspection or cleaning is completed.

_____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, #514 and #516. The thermal liners and moisture barriers shall be assembled using stitch type #301, #401, #504, #514, and #516. Major A outer shell structural seams and major B structural liner seams, shall have a minimum of 8 to 10 stitches per inch. All major A seams shall be sewn with ball point needles only. All seams shall be continuously stitched only.

_____Comply _____Exception

JACKET CONSTRUCTION

BODY

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.

_____Comply _____Exception

AXTION® BACK

The jacket outer shell shall include inverted pleats to afford enhanced mobility and freedom of movement in addition to that provided by the AXTION® sleeves. The outer shell shall have two inverted pleats (one each side) installed on either side of the back body panel. The inverted pleats shall begin at the top of each shoulder and extend vertically down the sides of the jacket to the hem. Maximum expansion of the pleats shall occur at the shoulder area and taper toward the hem. Pleats that do not extend to the hem will not be considered, since they do not provide a true AXTION® back.

The moisture barrier and thermal liner layers shall be designed with darts corresponding to the added length in the shell provided by the AXTION® back pleats. The darts are positioned at the shoulder blades, outside of the SCBA straps and work together with the corresponding outer shell pleats in the AXTION® back, providing maximum expansion. The moisture barrier darts will be seam sealed to assure liquid resistance integrity.

_____Comply _____Exception

DRAG RESCUE DEVICE (DRD)

A Firefighter Drag Rescue Device (DRD) shall be installed in each jacket. The ends of a 1 inch wide strap, constructed of Kevlar®, shall be sewn together to form a continuous loop. The strap shall 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 DRD shall be removable for laundering. The access port shall be covered by an outside flap of shell material, 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 liner system of the jacket shall incorporate an opening at the leading edge of the right front panel. This opening shall run a minimum of 11 inches for the purpose of inspecting the integrity of the jacket liner system. When installed into the outer shell the Liner Access Opening shall be covered and protected by the overlap of the outer shell facing.

_____Comply _____Exception

RETROREFLECTIVE FLUORESCENT TRIM

The retroreflective fluorescent trim shall be lime/yellow 3M Scotchlite™ COMFORT Trim (Heat applied segmented 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.

_____Comply _____Exception

SEWN ON RETROREFLECTIVE LETTERING

Each jacket shall have the departments name on back of jacket.
Lettering to be determined per department.

3” lime/yellow 3M Scotchlite™ lettering on Hanging Letter Patch reading: Firefighter’s Name

_____Comply _____Exception

LETTER PATCH

Hanging Letter Patch
The hanging letter patch shall be constructed of a double layer of outer shell material. The letter patch will attach to the rear inside hem of the jacket with a combination of snap fasteners and FR hook & loop fastener tape.

_____Comply _____Exception

COLLAR & FREE HANGING THROAT TAB

The collar shall consist of a minimum four-layer construction and be of one-piece design. There shall be two layers of a moisture barrier material sandwiched in between two layers of outer shell fabric (see Moisture Barrier section). The forward inside ply of moisture barrier shall be sewn to the inside of the collar along the edges only. The multi-layered configuration shall provide protection from water and other hazardous elements, while maintaining thermal protection. The collar shall be a minimum of 3 inches high and graded to chest 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 back layers of outer shell and moisture barrier shall be joined to the body panels with a minimum of two rows of stitching. The collar front layers of outer shell and moisture barrier fabric shall have a series of minimum 6 snap fasteners on lower edge of the collar. The top most collar shall be turned under and finished such that the snaps on the collar will not be able to contact the wearer's skin. There shall be corresponding snap fasteners on a moisture barrier leader, which is sewn to the thermal liner system to engage the snaps on the collar. The snaps on the thermal liner system leader will be installed such that they do not penetrate from the outer shell through to the inner layers. This moisture barrier leader on the thermal liner system shall be sandwiched between the underside of the top collar shell fabric and moisture barrier material and the bottom collar shell fabric and moisture barrier material so as to reduce the possibility of liner detachment while donning and doffing.

The throat tab shall consist of a minimum of four-layer construction and be a scoop type design. There shall be of two plies of outer shell material with two center plies of moisture barrier material. The throat tab shall measure not less than 3 inches wide at the center tapering to 2 inches at each end with a total length of approximately 9 inches. The throat tab will be attached to the right side of the collar by a 1 inch wide by 1 inch long piece of Nomex® twill webbing. The throat tab shall be secured in the closed and stowed position with FR hook and loop fastener tape. The FR hook and loop fastener tape shall be oriented to prevent exposure to the environment when the throat tab is in the closed position. Two 1½ inch by 3 inch pieces of FR loop fastener tape shall be sewn horizontally to the inside of each end of the throat tab. Corresponding pieces of FR hook fastener tape measuring 1 inch by 3 inches shall be sewn horizontally to the leading outside edge of the collar on each side, for attachment and adjustment when in the closed position and wearing a breathing apparatus mask. In order to provide a means of storage for the throat tab when not in use, a 1 inch by 3 inch piece of FR hook fastener tape shall be sewn horizontally to the inside of the throat tab immediately under the 1½ inch by 3 inch pieces of FR loop fastener tape. The collar closure strap shall fold in half for storage with the FR loop fastener tape engaging the FR hook fastener tape.

A hanger loop constructed of a double layer of outer shell material shall be sewn to the top of the collar at the center.

_____Comply _____Exception

JACKET FRONT

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 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. 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 a 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 wicking barrier shall extend no more than a maximum of ¾ inch beyond the inner facing and false facing shall be unacceptable. The thermal liner and moisture barrier assembly shall be attached to the jacket facings by means of snap fasteners.

_____Comply _____Exception

STORM FLAP

A rectangular storm flap measuring approximately 3 inches (6 inches for hook and dee inside/FR hook and loop fastener tape outside closure; aka #7C) wide and a minimum of 23 inches long (based on a 32 inch length jacket) 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 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.

_____Comply _____Exception

STORM FLAP AND JACKET FRONT CLOSURE SYSTEM

The jacket shall be closed by means of a 22 inch size #10 heavy duty high-temp smooth-gliding YKK Vislon® zipper on the jacket fronts and FR hook and loop 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 fronts. The storm flap shall close over the left and right jacket body panels and shall be secured with FR hook and loop fastener tape. A 1½ inch piece of FR 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 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.

_____Comply _____Exception

ZIPPERGRIPPER™

There shall be a ZIPPERGRIPPER™ feature integrated into the zipper closure of the jacket. The ZIPPERGRIPPER™ shall facilitate donning and shall provide additional room at the base of the jacket when sitting otherwise engaged. The ZIPPERGRIPPER™ will be comprised of black Ara-Shield®, with the zipper installed on one side of the Ara-Shield® and with the opposite side double stitched to the left coat front. The ZIPPERGRIPPER™ will be wedged shaped, measuring approximately 4 inches high and finished 1½ inches wide at the bottom. There will be a single row of stitching, approximately 2 inches high, to ensure the ZIPPERGRIPPER™ is held in place beneath the stormflap.

_____Comply _____Exception

CARGO/HANDWARMER EXPANSION (BELLOWS) POCKETS

Each jacket front body panel shall have a 2 inch deep by 8 inch wide by 8 inch high expansion pocket, double stitched to it and shall be located such that the bottom of the pockets are at the bottom of the jacket for full functionality when used with an SCBA. Retroreflective trim shall run over the bottom of the pockets so as not to interrupt the trim stripe. Two rust resistant metal drain eyelets shall be installed in the bottom of each expansion pocket to facilitate drainage of water. *The expansion pocket shall be reinforced with a layer of Kevlar® approximately 5 inches up on the inside of the pocket.* The pocket flaps shall be rectangular in shape, constructed of two layers of outer shell material and shall measure approximately 3 inches deeper than the pocket expansion and ½ inch wider than the pocket. 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 hook and loop fastener tape. Two pieces of 1 ½ inch by 3 inch FR hook fastener tape shall be installed vertically on the inside of each pocket flap (one piece on each end). Two corresponding pieces of 1 ½ inch by 3 inch FR 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 under 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. Shell material linings shall not be considered acceptable.

_____Comply _____Exception

AXTION® SLEEVES

The sleeves shall be of two piece construction and contoured, 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.

_____Comply _____Exception

SLEEVE CUFF REINFORCEMENTS

The sleeve cuffs shall be reinforced with black suede leather.

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.

_____Comply _____Exception

WRISTLETS / ELASTICIZED ADJUSTABLE SLEEVE WELLS

Each jacket shall be equipped with **Nomex® knit wristlets with thumb loop** not less than 4 inches in length and of double thickness. Nomex® knit is constructed of 96% Nomex® and 4% Spandex for shape retention. A loop of ½ inch wide black 6.0 oz. Brigade material shall be installed on each wristlet. This loop is designed to slip over the thumb and hold the wristlets from riding up the arm. The color of the wristlets shall be grey.

The wristlets shall be sewn to the end of the liner sleeves. Flame resistant neoprene coated cotton/polyester 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 neoprene sleeve well shall form an elasticized cuff end with an FR hook and loop fastener tape tab 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 neoprene 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. Four 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 snaps in 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.

_____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 in this high compression area. 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. Finished dimension shall be approximately 5 inches by 8 inches. All edges shall be finished by means of overedging. Raw or unfinished edges shall be considered unacceptable. Thermal scraps shall not be substituted for full-cut fabric padding.

_____Comply _____Exception

LINER SHOULDER AND UPPER BACK THERMAL ENHANCEMENT

A minimum of one additional layer of thermal liner material shall be used to increase thermal insulation in the upper back, front and shoulder area of the liner system. This full-cut thermal enhancement layer shall drape over the top of each shoulder extending from the collar to the sleeve/shoulder seam, down the front approximately 5 inches from the juncture of the collar down the back to a depth of approximately 5 ¾ inches to provide greater CCHR protection in this high compression area. The upper back, front 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. 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.

_____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 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 3 inches longer than the depth of the pocket and ¼ inch wider than the pocket. The pocket flap shall be closed by means of FR hook and loop fastener tape. A 1½ inch by 3 inch piece of FR 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 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 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 3 inches deep by 3.5 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.

Note: Radio pockets on the sleeves will be fully lined with neoprene to comply with the NFPA 2013 Stored Energy Test.

_____Comply _____Exception

NOTCHED RADIO POCKET FLAP

The radio pocket flap shall be notched to accommodate the radio antenna on the right side as worn.

_____Comply _____Exception

MICROPHONE STRAP

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.

One microphone strap shall be mounted above the radio pocket. Another microphone strap shall be mounted vertical on the storm flap and shall be constructed of double layer outer shell material.

_____Comply _____Exception

SURVIVOR FLASHLIGHT HOLDER

Each jacket shall be equipped with a “Survivor” flashlight holder. An inward facing safety hook, attached to a double layer self material strap, shall be double stitched in a vertical position to the upper chest. The inward facing safety hook will accommodate the clip portion of the flashlight. Below the safety hook will be a strap constructed of outer shell material measuring approximately 1 ¾ inches high and 9 inches wide, and will hold the barrel of the flashlight. The lower strap will be equipped with a 1 ½ inch by 2 ½ inch FR hook and loop closure at the front of the strap to facilitate easy removal of the flashlight. There shall be approximately 3 ½ inches between the upper safety hook and lower strap. The "Survivor" flashlight holder shall be sewn to the jacket on the right chest.

_____Comply _____Exception

PANT SPECIFICATIONS

SIZING

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:

Pants:

Gender:	Gender specific Men's and Women's patterns
Waist:	Even sizes
Body Shape:	Men's Regular, Relaxed and Slim
	Relaxed is a fuller cut in the hips and thighs, like relaxed jeans.
	Slim is a more slender cut in the hips and thigh, like straight fit jeans.
	Women's
Inseam:	Even sizes

Pants available in only one or two standard shapes will not be acceptable.

_____Comply _____Exception

OUTER SHELL MATERIAL - PANTS

The outer shell shall be constructed of TENCATE **"AGILITY™"** featuring **ENFORCE™** Technology Kevlar®/PBO/ Nomex® blend material with an approximate weight of 6.6 oz. per square yard in a twill weave. The shell material must be treated with a durable water-repellent finish that offers resistance to liquid absorption. Color of the garments shall be light gold.

_____Comply _____Exception

THERMAL INSULATING LINER - PANTS

The thermal liner shall be constructed of 6.7 oz. per square yard TENCATE **CALDURA® ELITE NOMEX® NANO ELITE;** one layer of Nomex Nano and one layer of 2.3 oz. per square yard Nomex® E-89™ spunlaced Nomex®/Kevlar® aramid blend, quilt stitched to a Kevlar filament and FR Rayon/meta-aramid/ nylon inherently wicking Caldura® face cloth. The thermal liner shall be sewn to the moisture barrier and shall be independently bound around its 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.

_____Comply _____Exception

MOISTURE BARRIER - PANTS

The moisture barrier material shall be W.L. GORE **CROSSTECH® Black moisture barrier** - Type 2F, which is comprised of a CROSSTECH® membrane laminated to a Nomex® IIIA woven pajama check substrate. The CROSSTECH® membrane is an enhanced bicomponent membrane comprised of an expanded PTFE (polytetrafluoroethylene, for example Teflon®) matrix having a continuous hydrophilic (i.e. water-loving) and oleophobic (i.e. oil-hating) coating that is impregnated into the matrix. CROSSTECH® moisture barrier seams shall be sealed with GORE-SEAM® tape using a Series 6000 (or higher) GORE-SEAM™ sealing machine to afford comparable bacteriophage penetration resistance performance. 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 FOR PANTS

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 on the shell shall be color coded to

corresponding color coded snap tabs in the liner for ease of matching the liner system to the outer shell after inspection or cleaning is completed. There shall be no hook and loop used to close the liner access opening.

_____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, #514 and #516. The thermal liners and moisture barriers shall be assembled using stitch type #301, #401, #504, #514, and #516. Major A outer shell structural seams and major B structural liner seams, shall have a minimum of 8 to 10 stitches per inch. All major A seams shall be sewn with ball point needles only. All seams shall be continuously stitched only.

_____Comply _____Exception

PANT 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® thread. In addition to the four body panels, there shall be a seamless, one-piece crotch gusset. The one-piece gusset allows for less bulk, comfort and more freedom of movement in this high stress area. The body panels, seam lengths and crotch gusset 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.

_____Comply _____Exception

CONTOURED SADDLE

The rise of the rear pant center back seam, including gusset, 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 approximately 8 inches. The longer rear center back seam provides added length in the seat for mobility without restriction when stepping up, kneeling, or crawling and maintains proper alignment of the knee, without twisting, directly over the kneepads when kneeling and crawling.

_____Comply _____Exception

LINER ACCESS OPENING (PANT)

The thermal liner and moisture barrier layers of the pant liner system shall be constructed in such a way as to allow an access opening for interior inspection, service and replacement. The thermal liner and moisture barrier layers shall be stitched together for security and prevention of inadvertent use of one layer without the other. The liner system shall have a reinforcement material 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.

The liner system of the pant shall incorporate an opening along the back of the waistline for ease in inspecting the inner layers and to facilitate 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 on each of the front panels, along the waistband from the front fly opening to side seam. The back of the liner system will be allowed to remain open with two snaps on either side of the back seam to attach the moisture barrier layer to the thermal liner layer. As described previously, the pant thermal layer system snaps directly to the independent waistband by means of nine snap fasteners. There shall be no hook and loop used to close the liner access opening.

_____Comply _____Exception

RETROREFLECTIVE FLUORESCENT TRIM

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™ COMFORT Trim (Heat applied segmented L/Y borders with silver center).

Bottom of trim band shall be located approximately 3" above cuff.

_____Comply _____Exception

ELASTICIZED WAISTBAND

The pant design facilitates the transfer of the weight of the pant to the hips instead of shoulders and suspenders. The two rear outer-shell body panels, beginning at the pant side seams, shall incorporate an elasticized waist insert, running from the side seam towards the back of the trouser for an approximate distance of 4 inches. The rear elasticized waist inserts shall be integral to the shell of the pant and the elasticized portions shall be covered by the outer shell fabric of the pant.

The waist area of the pants shall be reinforced on the inside with a separate piece of black aramid outer shell material, cut on the bias (diagonally). The reinforcement shall be folded in half, for a finished bottom edge and shall have a finished width of not less than approximately 1½ inches. 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 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 by means of nine snaps, spaced equidistant along the length of the waistband reinforcement. Inserting the liner system between the waistband reinforcement and outer shell serves to reduce the possibility of liner detachment while donning and doffing. The independent waistband construction affords greater comfort and fit than a turned and stitched method. Pants that do not include an independent waistband or are not cut on the bias will not provide the same amount of stretch to the garment and shall be considered unacceptable.

_____Comply _____Exception

EXTERNAL / INTERNAL FLY FLAP

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 ¾ 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 underside of the outside fly flap shall have a 1½ inch wide piece of FR loop fastener tape quadruple stitched full length along the shell material only; stitching shall not penetrate the moisture barrier insert between the two shell fabric layers to insure greater thermal protection and reduced water penetration. A corresponding strip of 1½ inch wide piece of FR hook fastener tape shall be quadruple stitched to the outside right front body panel securing the fly in a closed position.

_____Comply _____Exception

CLOSURE

Escape Belt with Wide Belt Loops

The pant shall have an integrated Escape Belt, which is independently certified as meeting the belt requirements of NFPA 1983, Standard on Life Safety Rope and Equipment for Emergency Services, which shall serve as the exterior primary positive locking closure. The Escape belt shall be comprised of Kevlar® webbing with a hook and an adjustable D-ring closure, graded for the waist size of the pants. The hook and dee closure system of the Escape Belt also serves as the positive front closure for the pants, eliminating redundant closure systems.

The pants shall be equipped with a series of black aramid material belt loops spaced around the waist to accommodate the aramid belt. There shall be three large loops measuring approximately 4 inches high by 4 1/4 inches long and two smaller loops measuring approximately 1/2 inch wide by 3 1/2 inches long. Two of the large belt loops shall be placed on each side of the front of the pant and third on the rear of the waist, centered over the rear seam. The two smaller loops shall be placed on the rear of the pant, behind the side seams.

_____Comply _____Exception

ARTICULATED KNEE

The outer shell of the pant legs shall be constructed with horizontal pleats in the knee area with corresponding darts in the liner. In order to provide increased freedom of movement and maximum flexibility, extra material is built into the knee area and this additional fullness is contained by stitching down the pleats on the inside of the shell. The knee reinforcement shall 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 darts per leg in the front of the knee. Two shall be located above the knee (one on each side) and two shall be located below the knee (one on each side). On the moisture barrier, the system shall 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 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.

_____Comply _____Exception

LINER KNEE THERMAL ENHANCEMENT

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, shall 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 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.

_____Comply _____Exception

CATHEDRAL KNEE REINFORCEMENTS

The knee area shall be reinforced with a layer of black Dragonhide® material.

The cathedral shaped knee reinforcement shall be centered on the leg to ensure proper coverage when bending, kneeling and crawling. The knee reinforcements shall measure a minimum of approximately 7 inches wide by 12 inches high at the highest point and shall be double stitched to the outside of the outer shell in the knee area for greater strength and abrasion resistance. The articulated cathedral knee reinforcement shall be cut and stitched to the shell in such a way that there shall be an arch at the top of the reinforcement, tapering down the sides of the reinforcement with a squared off bottom. Knee reinforcements of a smaller size do not provide the same protective coverage and shall be considered unacceptable.

_____Comply _____Exception

PADDING UNDER KNEE REINFORCEMENTS

Padding for the knees shall be accomplished with one layer of **Silizone**® foam, sandwiched between the thermal liner and moisture barrier. The placement of Silizone® padding on the thermal versus the shell reduces bulk in the shell and also serves to protect the padding from abrasion and other wear issues that the outer shell is subject to. Pants with Silizone® knee padding on the shell as opposed to on the liner, do not provide the same level of bulk reduction and abrasion resistance and are not recommended.

_____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 out-seam above the knee and positioned to provide accessibility. *The lower half of each expansion pocket shall be reinforced with an additional layer of Kevlar® twill 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 approximately 3 inches deeper than the pocket expansion and ½ inch wider than the pocket. 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 hook and loop fastener tape. Two pieces of 1½ inch by 3 inch FR 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 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

POCKET DIVIDER

The right side expansion pocket shall be equipped with a vertical divider separating the pocket into two compartments. The divider will split the pocket 50/50.

_____Comply _____Exception

PANT CUFF REINFORCEMENTS

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.

_____Comply _____Exception

PADDED RIP-CORD SUSPENDERS & ATTACHMENT

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 black Ara-Shield® material 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.

_____Comply _____Exception

REVERSE BOOT CUT

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. Pants that have “cut-outs” in the back panel rather than a contoured boot cut shall be considered unacceptable.

_____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 by Underwriters Laboratories (UL). Underwriters Laboratories shall certify and list compliance to that standard. Such certification shall be denoted by the Underwriters Laboratories certification mark.

_____Comply _____Exception

LABELS

Appropriate warning label(s) shall be permanently affixed to each garment. Additionally, the NFPA certification label 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

_____Comply _____Exception

ISO CERTIFICATION / REGISTRATION

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.

_____Yes _____No

WARRANTY:

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.

_____Comply _____Exception

HOOK AND LOOP SUPPORT PROGRAM

Support program shall cover hook or loop tape that has begun to fray or otherwise degrade from normal wear. This program shall remain in effect for a period of five years from the original date of manufacture of the garment. This support program shall cover the repair or replacement, without charge, of any hook and/or loop on the garments produced by the manufacturer providing the garments are otherwise serviceable.

This support program does NOT cover damage from fire, heat, chemicals, misuse, accident or negligence. Failure to properly care for garments will serve to void this support program.

_____Comply _____Exception

SIZING BY VENDOR:

Sizing samples shall be on hand for use when sizing. The vendor shall be available to perform all sizing requirements within 96 hours of written notice. Measuring with a tape measure is not acceptable.

_____Comply _____Exception

BAR-CODE/RECORD KEEPING INTERFACE

A 1 dimensional barcode, in the interleaved 2 of 5 format shall be printed on the label of each separable layer of the garment.

This barcode shall represent the serial number of the garment. The manufacturer shall be able to provide a detailed list of each asset of a drop-shipped order, and shall include the following:

- Brand
- Order Number
- Serial Number
- Style Number
- Color
- Description
- Chest/Waist Size
- Jacket/pant Length
- Sleeve Length
- Date of Manufacture
- Mark-For Data

This information shall be able to be imported into the manufacturers web-based system designed to facilitate the organization and tracking of assets in accordance with the cleaning and inspection requirements of OSHA and NFPA 1851.

_____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.

COUNTRY OF ORIGIN

Jackets shall be manufactured in the United States.

Details and specifications are subject to change as necessary, without notification.

SPECIFICATIONS – ARMOR AP
PROTECTIVE JACKET & PANT
FOR STRUCTURAL FIRE FIGHTING

SCOPE

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 fire fighting. All materials and construction will meet or exceed NFPA Standard #1971 and OSHA for structural fire fighters protective clothing.

_____Comply _____Exception

JACKET SPECIFICATIONS

OUTER SHELL MATERIAL - JACKETS

The **"ARMOR™ AP"** outer shell shall be manufactured by Safety Components and constructed of 67/33 Para-Aramid/Meta-Aramid with a comfort twill weave, having an approximate weight of 6.5 oz. per square yard. The shell material must be treated with a durable water-repellent finish and the color of the garments shall be black.

_____Comply _____Exception

THERMAL INSULATING LINER - JACKET

The thermal liner shall be constructed of 7.4 oz. per square yard Safety Components **GLIDE ICE™ 2L-E89;** one layer of 1.5 oz. and one layer of 2.3 oz. per square yard E-89™ spunlaced Nomex®/Kevlar® aramid blend, quilt stitched to a 60% Nomex® Filament/40% Nomex®/Lenzing spun yarn Face Cloth. A 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 sewn to the moisture barrier and shall be independently bound around its 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.

_____Comply _____Exception

MOISTURE BARRIER - JACKETS

The moisture barrier material shall be STEDFAST "**STEDAIR® 4000**" moisture barrier shall be a two-layer laminate comprised of an enhanced Bi-component membrane and Nomex® IIIA woven pajama check substrate. The enhanced Bi-component membrane shall be comprised of an expanded PTFE (polytetrafluoroethylene, i.e: Teflon®) matrix having a continuous hydrophilic (water-loving) and oliophobic (oil-hating) coating that is impregnated into the matrix. The moisture barrier shall meet and exceed all requirements of NFPA 1971, 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 together with bias-cut neoprene-coated cotton/polyester secured with double stitching. 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 FOR JACKETS

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

_____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, #514 and #516. The thermal liners and moisture barriers shall be assembled using stitch type #301, #401, #504, #514, and #516. Major A outer shell structural seams, major B structural liner seams and shall have a minimum of 8 to 10 stitches per inch. All Major A seams shall be sewn with ball point needles only. All seams shall be continuously stitched only.

_____Comply _____Exception

JACKET CONSTRUCTION

BODY

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.

_____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

27 inches in the front/31 inches long in the back. (women's)
29 inches in the front/33 inches long in the back. (standard)
32 inches in the front/36 inches long in the back.
35 inches in the front/39 inches long in the back.

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

DRAG RESCUE DEVICE (DRD)

A Firefighter Drag Rescue Device (DRD) shall be installed in each jacket. The ends of a 1 inch wide strap, constructed of Kevlar®, shall be sewn together to form a continuous loop. The strap shall 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 DRD shall be removable for laundering. The access port shall be covered by an outside flap of shell material, 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 liner system of the jacket shall incorporate an opening at the leading edges of the right front panel. This opening shall run a minimum of 11 inches 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.

_____Comply _____Exception

RETROREFLECTIVE FLUORESCENT TRIM

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.

_____Comply _____Exception

REINFORCED TRIM STITCHING

All sewn on 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 the departments name on back of jacket.
Lettering to be determined per department.

3” lime/yellow 3M Scotchlite™ lettering on Row Hanging Letter Patch reading: Firefighter’s Name

_____Comply _____Exception

LETTER PATCH

Hanging Letter Patch
The Hanging letter patch shall be constructed of a double layer of outer shell material. The letter patch will attach to the rear inside hem of the jacket with a combination of snap fasteners and FR hook and loop fastener tape.

_____Comply _____Exception

COLLAR & FREE HANGING THROAT TAB

The collar shall consist of a minimum four-layer construction and be of one-piece design. The outer layers shall consist of one layer of specified outer shell material on outside and a layer of standard black outer shell material on the inside and two layers of a 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. The collar's front layers of moisture barrier and outer shell shall have a strip of ⅝ inch wide FR hook fastener tape stitched to the inside lower edge and running the full length of the collar. The inside strip of ⅝ inch wide FR hook fastener tape sewn to the underside of the collar shall engage a corresponding piece of FR loop 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 consist of a minimum 4 layer construction and it shall be of 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 3½ inches wide at the center tapering to approximately 2 inches at each end with a total length of approximately 9 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 hook and loop fastener tape. The FR 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 loop fastener tape shall be sewn horizontally to the each end of the throat tab and a 1 inch by 3 inch piece of FR hook fastener tape shall be sewn horizontally to the throat tab. A corresponding piece of FR hook fastener tape measuring 1 inch 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 loop fastener tape engaging the FR hook fastener tape.

_____Comply _____Exception

JACKET FRONT

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 a 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 wicking barrier shall extend no more than a maximum of ¾ inch beyond the inner facing and false facing shall be unacceptable. The thermal liner and moisture barrier assembly shall be attached to the jacket facings by means of snap fasteners.

_____Comply _____Exception

STORM FLAP

A rectangular storm flap measuring approximately 3¼ inches (6 inches for hook and dee inside/FR hook and loop fastener tape outside closure; aka #7C) 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 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.

_____Comply _____Exception

STORM FLAP AND JACKET FRONT CLOSURE SYSTEM

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 hook and loop 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 fronts. The storm flap shall close over the left and right jacket body panels and shall be secured with FR hook and loop fastener tape. A 1½ inch piece of FR 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 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.

_____Comply _____Exception

SEMI-EXPANSION (BELLOWS) POCKETS

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 approximately 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 hook and loop fastener tape. Two pieces of 1½ inch by 3 inch FR 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 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 under 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.

_____Comply _____Exception

SILIZONE FLAP PULL (JACKET – 2X8X8 EXPANSION POCKET)

The end of the pocket flap shall be equipped with an Silizone® flap pull. There shall be a strip of Silizone® encased within the end of the pocket flap.

_____Comply _____Exception

AXTION® SLEEVES

The sleeves shall be of two-piece construction and contoured, 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.

_____Comply _____Exception

SLEEVE CUFF REINFORCEMENTS

The sleeve cuffs shall be reinforced with black Ara-Shield® 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.

_____Comply _____Exception

WRISTLETS / SLEEVE WELLS

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 grey.

The wristlets shall be sewn to a piece of self material leader that is then stitched into the cuff. Four 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 fasteners and one color coded Ara-shield® snap tab sewn onto the liner sleeves. One of the Ara-shield® snap tabs on the shell shall be a different color 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.

_____Comply _____Exception

ELBOW REINFORCEMENTS

The elbows of the outer shell sleeves shall be reinforced with black Ara-Shield® material.

The outer shell elbow reinforcements shall be of a one piece design, and shall incorporate a layer of FR material sewn beneath the elbow reinforcement when necessary to insure compliance with the stored energy test requirements. The elbow reinforcement shall measure approximately 6 1/2 inches by 8 inches, and shall be double stitched onto the outer sleeve shell.

_____Comply _____Exception

LINER SHOULDER THERMAL ENHANCEMENT

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 inches to the front, 2 inches 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.

_____Comply _____Exception

SHOULDER REINFORCEMENT

The tops of the shoulders (front yoke) of the outer shell shall be reinforced on the outside with an extra layer of outer shell material.

The additional shoulder reinforcement layer shall also serve to increase thermal insulation to the shoulder area. The reinforcements shall be double stitched to the shell and shall measure approximately 4 inches wide near the collar and approximately 6 inches wide at the juncture of the sleeve and body panels.

_____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 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 3 inches longer than the depth of the pocket and approximately ¼ inch wider than the pocket. The pocket flap shall be closed by means of FR hook and loop fastener tape. A 1½ inch by 3 inch piece of FR 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 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 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 3.5 inches wide by 7 inches high and shall be installed on the left chest.

Note: radio pocket 6-inch and over in height requires trim.

Note: Radio pockets on the sleeves will be fully lined with neoprene to comply with the NFPA 2013 Stored Energy Test.

_____Comply _____Exception

MICROPHONE STRAP

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 on the right chest and shall be constructed of double layer outer shell material.

_____Comply _____Exception

SURVIVOR FLASHLIGHT HOLDER

Each jacket shall be equipped with a “Survivor” flashlight holder. An inward facing safety hook, attached to a double layer self material strap, shall be double stitched in a vertical position to the upper chest. The inward facing safety hook will accommodate the clip portion of the flashlight. Below the safety hook will be a strap constructed of outer shell material measuring approximately 1 ¾ inches high and 9 inches wide, and will hold the barrel of the flashlight. The lower strap will be equipped with a 1 ½ inch by 2 ½ inch FR hook and loop closure at the front of the strap to facilitate easy removal of the flashlight. There shall be approximately 3 ½ inches between the upper safety hook and lower strap. The "Survivor" flashlight holder shall be sewn to the jacket on the right chest.

The jackets shall be equipped with a helmet strap. An inward facing safety hook, attached to a double layer self material strap, shall be double stitched in a vertical position to the upper chest. The helmet strap shall be located on the right chest.

_____Comply _____Exception

PANT SPECIFICATIONS

SIZING

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:

Pants:

Gender:	Gender specific Men’s and Women’s patterns
Waist:	Even sizes
Body Shape:	Men’s Regular, Relaxed and Slim
	Relaxed is a fuller cut in the hips and thighs, like relaxed jeans.
	Slim is a more slender cut in the hips and thigh, like straight fit jeans.
	Women’s
Inseam:	Even sizes

Pants available in only one or two standard shapes will not be acceptable.

_____Comply _____Exception

OUTER SHELL MATERIAL - PANTS

The **"ARMOR™ AP"** outer shell shall be manufactured by Safety Components and constructed of 67/33 Para-Aramid/Meta-Aramid with a comfort twill weave, having an approximate weight of 6.5 oz. per square yard. The shell material must be treated with a durable water-repellent finish and the color of the garments shall be black.

_____Comply _____Exception

THERMAL INSULATING LINER - PANTS

The thermal liner shall be constructed of 7.4 oz. per square yard Safety Components **GLIDE ICE™ 2L-E89;** one layer of 1.5 oz. and one layer of 2.3 oz. per square yard E-89™ spunlaced Nomex®/Kevlar® aramid blend, quilt stitched to a 60% Nomex® Filament/40% Nomex®/Lenzing spun yarn Face Cloth. The thermal liner shall be sewn to the moisture barrier and shall be independently bound around its 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.

_____Comply _____Exception

MOISTURE BARRIER - PANTS

The moisture barrier material shall be STEDFAST "**STEDAIR® 4000**" moisture barrier shall be a two-layer laminate comprised of an enhanced Bi-component membrane and Nomex® IIIA woven pajama check substrate. The enhanced Bi-component membrane shall be comprised of an expanded PTFE (polytetrafluoroethylene, i.e: Teflon®) matrix having a continuous hydrophilic (water-loving) and oliophobic (oil-hating) coating that is impregnated into the matrix. The moisture barrier shall meet and exceed all requirements of NFPA 1971, 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 together with bias-cut neoprene-coated cotton/polyester secured with double stitching. 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 FOR PANTS

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 on the shell shall be color coded to corresponding color coded snap tabs in the liner for ease of matching the liner system to the outer shell after inspection or cleaning is completed. There shall be no hook and loop used to close the liner access opening.

_____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, #514 and #516. The thermal liners and moisture barriers shall be assembled using stitch type #301, #401, #504, #514, and #516. Major A outer shell structural seams and major B structural liner seams, shall have a minimum of 8 to 10 stitches per inch. All major A seams shall be sewn with ball point needles only. All seams shall be continuously stitched only.

_____Comply _____Exception

PANT 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® thread. In addition to the four body panels, there shall be a seamless, one-piece crotch gusset. The one-piece gusset allows for less bulk, comfort and more freedom of movement in this high stress area. The body panels, seam lengths and crotch gusset 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.

_____Comply _____Exception

CONTOURED SADDLE

The rise of the rear pant center back seam, including gusset, 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 approximately 8 inches. The longer rear center back seam provides added length in the seat for mobility without restriction when stepping up, kneeling, or crawling and maintains proper alignment of the knee, without twisting, directly over the kneepads when kneeling and crawling.

_____Comply _____Exception

LINER ACCESS OPENING (PANT)

The thermal liner and moisture barrier layers of the pant liner system shall be constructed in such a way as to allow an access opening for interior inspection, service and replacement. The thermal liner and moisture barrier layers shall be stitched together for security and prevention of inadvertent use of one layer without the other. The liner system shall have a reinforcement material 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.

The liner system of the pant shall incorporate an opening along the back of the waistline for ease in inspecting the inner layers and to facilitate 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 on each of the front panels, along the waistband from the front fly opening to side seam. The back of the liner system will be allowed to remain open with two snaps on either side of the back seam to attach the moisture barrier layer to the thermal liner layer. As described previously, the pant thermal layer system snaps directly to the independent waistband by means of nine snap fasteners. There shall be no hook and loop used to close the liner access opening.

_____Comply _____Exception

RETROREFLECTIVE FLUORESCENT TRIM

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.

_____Comply _____Exception

REINFORCED TRIM STITCHING

All sewn on 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

ELASTICIZED WAISTBAND

The pant design facilitates the transfer of the weight of the pant to the hips instead of shoulders and suspenders. The two rear outer-shell body panels, beginning at the pant side seams, shall incorporate an elasticized waist insert, running from the side seam towards the back of the trouser for an approximate distance of 4 inches. The rear elasticized waist inserts shall be integral to the shell of the pant and the elasticized portions shall be covered by the outer shell fabric of the pant.

The waist area of the pants shall be reinforced on the inside with a separate piece of black aramid outer shell material, cut on the bias (diagonally). The reinforcement shall be folded in half, for a finished bottom edge and shall have a finished width of not less than approximately 1½ inches. 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 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 by means of nine snaps, spaced equidistant along the length of the waistband reinforcement. Inserting the liner system between the waistband reinforcement and outer shell serves to reduce the possibility of liner detachment while donning and doffing. The independent waistband construction affords greater comfort and fit than a turned and stitched method. Pants that do not include an independent waistband or are not cut on the bias will not provide the same amount of stretch to the garment and shall be considered unacceptable.

_____Comply _____Exception

EXTERNAL / INTERNAL FLY FLAP WITH ZIPPER

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 ¾ 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 underside of the outside fly flap shall have a 1½ inch wide piece of FR loop fastener tape quadruple stitched full length along the shell material only; stitching shall not penetrate the moisture barrier insert between the two shell fabric layers to insure greater thermal protection and reduced water penetration. A corresponding strip of 1½ inch wide piece of FR hook fastener tape shall be quadruple stitched to the outside right front body panel securing the fly in a closed position.

_____Comply _____Exception

CLOSURE

Full Black Belt with Wide Belt Loops

Each pant shall include an approximate 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 series of black aramid material belt loops spaced around the waist to accommodate the aramid belt.

There shall be three large loops measuring approximately 2 inches by 4 inches and two smaller loops measuring approximately 1/2 inch wide by 3 1/2 inches long. Two of the large belt loops shall be placed on each side of the front of the pant and third on the rear of the waist, centered over the rear seam. The two smaller loops shall be placed on the rear of the pant, behind the side seams.

_____Comply _____Exception

ARTICULATED KNEE

The outer shell of the pant legs shall be constructed with horizontal pleats in the knee area with corresponding darts in the liner. In order to provide increased freedom of movement and maximum flexibility, extra material is built into the knee area and this additional fullness is contained by stitching down the pleats on the inside of the shell. The knee reinforcement shall 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 darts per leg in the front of the knee. Two shall be located above the knee (one on each side) and two shall be located below the knee (one on each side). On the moisture barrier, the system shall 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 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.

_____Comply _____Exception

LINER KNEE THERMAL ENHANCEMENT

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, shall 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 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.

_____Comply _____Exception

CATHEDRAL KNEE REINFORCEMENTS

The knee area shall be reinforced with black Ara-Shield® material.

The cathedral shaped knee reinforcement shall be centered on the leg to ensure proper coverage when bending, kneeling and crawling. The knee reinforcements shall measure a minimum of approximately 7 inches wide by 12 inches high at the highest point and shall be double stitched to the outside of the outer shell in the knee area for greater strength and abrasion resistance. The articulated cathedral knee reinforcement shall be cut and stitched to the shell in such a way that there shall be an arch at the top of the reinforcement, tapering down the sides of the reinforcement with a squared off bottom. Knee reinforcements of a smaller size do not provide the same protective coverage and shall be considered unacceptable.

The lower edge of the Ara-Shield® knee reinforcement shall be turned under so that the lower row of stitching is covered and protected from abrasion.

_____Comply _____Exception

PADDING UNDER KNEE REINFORCEMENTS

Padding for the knees shall be accomplished with one layer of **Silizone**® foam, sandwiched between the thermal liner and moisture barrier. The placement of Silizone® padding on the thermal versus the shell reduces bulk in the shell and also serves to protect the padding from abrasion and other wear issues that the outer shell is subject to. Pants with Silizone® knee padding on the shell as opposed to on the liner, do not provide the same level of bulk reduction and abrasion resistance and are not recommended.

_____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 out-seam above the knee and positioned to provide accessibility. *The lower half of each expansion pocket shall be reinforced with an additional layer of Kevlar® twill 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 approximately 3 inches deeper than the pocket expansion and ½ inch wider than the pocket. 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 hook and loop fastener tape. Two pieces of 1½ inch by 3 inch FR 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 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

6 PACK TOOL COMPARTMENT FOR 2X10X10

A tool pocket constructed of Grey Ara-Shield® material and measuring approximately 8 inches high by 9 ½ inches wide will be installed on the inside of the left 2 inch by 10 inch by 10 inch pocket with double stitching. The front compartments shall measure approximately 6 ½ inches high and the rear compartments shall measure approximately 7 ½ inches high. Two separate rows of stitching will divide the tool pocket into six compartments, three in front and three in back. Each compartment shall measure a minimum of 2 ¾ inches wide and set side-by-side. Right and left pockets.

_____Comply _____Exception

PANT CUFF REINFORCEMENTS

The cuff area of the pants shall be reinforced with black Ara-Shield® 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.

_____Comply _____Exception

PADDED RIP-CORD SUSPENDERS & ATTACHMENT

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 black Ara-Shield® material 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.

_____Comply _____Exception

REVERSE BOOT CUT

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. Pants that have “cut-outs” in the back panel rather than a contoured boot cut shall be considered unacceptable.

_____Comply _____Exception

RAPPELLING HARNESS LOOPS

Each trouser shall have a series of 9 Harness loops around the waist and inner thigh. The loops will be constructed of Ara-Shield® material and will be of a 2-piece design – top and bottom. The top and bottom of each loop will attach to each other with snap fasteners and FR hook and loop fastener tape sewn to the ends to accommodate donning of the harness. The loops will be universally located to accept the Rappelling Harness worn on the outside of the trouser.

_____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 by Underwriters Laboratories (UL). Underwriters Laboratories shall certify and list compliance to that standard. Such certification shall be denoted by the Underwriters Laboratories certification mark.

_____Comply _____Exception

LABELS

Appropriate warning label(s) shall be permanently affixed to each garment. Additionally, the NFPA certification label 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

_____Comply _____Exception

ISO CERTIFICATION / REGISTRATION

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.

_____Yes _____No

WARRANTY

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.

_____Comply _____Exception

HOOK AND LOOP SUPPORT PROGRAM

Support program shall cover hook or loop tape that has begun to fray or otherwise degrade from normal wear. This program shall remain in effect for a period of five years from the original date of manufacture of the garment. This support program shall cover the repair or replacement, without charge, of any hook and/or loop on the garments produced by the manufacturer providing the garments are otherwise serviceable.

This support program does NOT cover damage from fire, heat, chemicals, misuse, accident or negligence. Failure to properly care for garments will serve to void this support program.

_____Comply _____Exception

SIZING BY VENDOR

Sizing samples shall be on hand for use when sizing. The vendor shall be available to perform all sizing requirements within 96 hours of written notice. Measuring with a tape measure is not acceptable.

_____Comply _____Exception

BAR-CODE/RECORD KEEPING INTERFACE

A 1 dimensional barcode, in the interleaved 2 of 5 format shall be printed on the label of each separable layer of the garment.

This barcode shall represent the serial number of the garment. The manufacturer shall be able to provide a detailed list of each asset of a drop-shipped order, and shall include the following:

- Brand
- Order Number
- Serial Number
- Style Number
- Color
- Description
- Chest/Waist Size
- Jacket/pant Length
- Sleeve Length
- Date of Manufacture
- Mark-For Data

This information shall be able to be imported into the manufacturers web-based system designed to facilitate the organization and tracking of assets in accordance with the cleaning and inspection requirements of OSHA and NFPA 1851.

_____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.

COUNTRY OF ORIGIN

Jackets shall be manufactured in the United States.

Details and specifications are subject to change as necessary, without notification.