



INVITATION FOR SEALED BID

TAC #127E

Description: PROTECTIVE CLOTHING

Department: FIRE DEPARTMENT

NIGP Commodity Code(s): 340-34-00-000-0

Total pages including this page is 34

NOTE: FAXING OF BID WILL NOT BE ACCEPTED

Important Instruction – Read Carefully:

**If you have obtained these bid specifications from either of:
City of Tulsa's Fax-on-Demand (918-596-1171) or
City of Tulsa's Website : www.cityoftulsapurchasing.org**

you must notify the buyer Laura Blades of your intent to bid by e-mail lblades@ci.tulsa.ok.us in order to receive addenda. The buyer will always acknowledge your e-mail for your records. All addenda will be posted on fax-on-demand and the website.

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Pay special attention to those pages with a reference to the following notes:

Note #1: Signature of authorized agent required

Note #2: Signature of an authorized agent and notarized required

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Your bid response should follow the same format listed above plus any additional format requested in the body of the bid invitation.

**INVITATION FOR SEALED BIDS
TO
City of Tulsa**

200 CIVIC CENTER, ROOM 109, TULSA, OKLAHOMA 74103

Bid number and date of bid opening must appear on the lower
left outside corner of bid envelopes and all related containers.

DATE OF OPENING: April 18, 2002 **BID NUMBER:** TAC 127E

**BID MUST BE IN THE CITY CLERK'S OFFICE AT THE ABOVE ADDRESS BY 5:00 P.M. THE DAY
PRECEDING THE "DATE OF OPENING" SHOWN ABOVE.**

BIDS WILL BE OPENED AT 8:30 A.M. IN THE CITY COUNCIL ROOM ON THE DAY SPECIFIED UNDER "DATE OF OPENING."

PUBLISHED IN THE TULSA DAILY COMMERCE AND LEGAL NEWS: April 5, 2002

Bid must be accompanied by bidder's bond, cashier's check or certified check in the amount of: NONE

PLEASE READ TERMS AND CONDITIONS ON THE NEXT PAGE BEFORE COMPLETING BID DOCUMENTS

THE FOLLOWING SECTION MUST BE COMPLETED BY BIDDER

Delivery will be made in not more than _____ days after receipt of order.

Payment terms _____% _____ days.

City of Tulsa may increase quantity of order at the unit price bid for _____ days. (Bidder to Specify Days) I have examined the terms and specifications and the instructions to bidders herein and agree, provided I am awarded a contract, to provide the above described items for the sum shown in accordance with the terms and specifications stated herein. All deviations are in writing and attached hereto.

Enclosed is a BID BOND ; CASHIER'S CHECK; Certified Check in the amount of \$ _____, which I agree the City of Tulsa may retain as liquidated damages in the event of my failure to comply with the terms of this bid.

MUST BE SIGNED BY AUTHORIZED AGENT TO BE VALID

FIRM NAME _____ by _____

STREET _____ TITLE _____

CITY STATE _____ ZIP CODE _____ PHONE NUMBER _____ DATE _____

GENERAL TERMS AND CONDITIONS OF BIDS

THESE ITEMS APPLY TO AND BECOME A PART OF THE BID.

NO EXCEPTIONS TO THESE TERMS & CONDITIONS WILL BE CONSIDERED.

1. **BIDS MUST BE SUBMITTED ON THIS FORM ONLY INCLUDING A SIGNATURE OF AN AUTHORIZED AGENT.** Each bid shall be placed in a separate envelope. Be sure envelope is completely and properly identified and sealed, showing the bid number and date in the lower left hand corner. Bids must be time stamped in the office of the City Clerk by 5:00 P.M. on the day before date of opening.
2. No bidder may withdraw his proposal for a period of thirty (30) days after the date and hour set for the opening of bids.
3. All prices shall be quoted F.O.B. Tulsa, Oklahoma, and delivery to City of Tulsa location shall be without additional charge.
4. The bidder shall attach the manufacturer's name of the equipment or material to be furnished, type, model numbers, manufacturer's descriptive bulletins and specifications. All guarantees and warranties should be clearly stated. This data shall be in sufficient detail to describe accurately the equipment or material to be furnished. Manufacturer's specifications, in respect to the successful bidder, shall be considered as part of his contract with the City of Tulsa.
5. The bidder shall show in the proposal both the unit prices and total amount, where required, of each item listed. In the event of error or discrepancy in the mathematics, the unit prices shall prevail.
6. Any exceptions or deviations from written specifications shall be shown in writing and attached to the bid form.
7. Each bidder agrees to comply with the terms of Title 5, Chapter 1, of Tulsa, Oklahoma Charter and revised ordinances relating to equal employment opportunity.
8. **THE ENCLOSED FORMS REGARDING NON-COLLUSION AND FINANCIAL INTEREST MUST BE SIGNED, NOTARIZED, AND RETURNED WITH THE BID.**
9. The City of Tulsa reserves the right to reject any and all bids, to waive any technicalities in the bidding, and to award each item to different bidders or all items to a single bidder.
10. All bids must be accompanied by bidders bond, cash, certified or cashier's check in the amount shown on the face of the bid form. This amount shall be retained by the City of Tulsa as liquidated damages in the event the successful bidder (or bidders) fails to execute a contract, if required. The bidder agrees that said amount is presumed to be the damages sustained by the City due to the impracticability and extreme difficulty in fixing the actual damages. The office of the City Clerk will return the bid deposits to the unsuccessful bidders, after a contract has been awarded or all bids have been rejected.
11. In the event cash discounts are offered by the bidder, the discount date shall begin with the date of invoice, the date of receipt of all material covered by the purchase order, or the date of receipt by the City of Tulsa of the original copy of the purchase order with properly executed Affidavit of Claimant, whichever is the later date.
12. Direct purchase of certain items of equipment or material by the City of Tulsa are exempt from Federal Excise Tax and Oklahoma Sales Tax. In such cases the bidder shall quote prices which do not include Federal Excise Tax and Oklahoma Sales Tax. The City of Tulsa will furnish executed exemption certificates upon presentation by the bidder at the time of purchase.
13. Bid must show number of days required for delivery under normal conditions. Failure to state delivery time obligates bidder to complete delivery in fourteen (14) calendar days. Unrealistically short or long delivery promises may cause bid to be disregarded. Contractor must keep Purchasing Department advised at all times of status of order. Default in promised delivery or failure to meet specifications authorizes the Purchasing Agent to purchase supplies elsewhere and charge full increase of cost and handling to defaulting contractor. Consistent failure to meet delivery promises without valid reason may cause removal from bid list.
14. Bidder agrees to defend and save City of Tulsa from and against all demands, claims, suits, costs, expenses, damages and judgments based upon infringement of any patent relating to goods specified in this order or the ordinary use or operation of such goods by City or use or operation of such goods in accordance with bidders direction.
15. If the bid requires a written contract, the successful bidder shall execute a written contract with the City of Tulsa and return the required bonds and insurance certificates within ten (10) days after submission of contracts to said bidder by the City.

INTEREST AFFIDAVIT

STATE OF _____ }
 } ss
COUNTY OF _____ }

_____, of lawful age, being first duly sworn, states that s(he) is the agent authorized by the bidder to submit the attached bid. Affiant further states that no officer or employee of the City of Tulsa either directly or indirectly, owns a twenty-five percent (25%) interest in the bidder's business or such a percentage which constitutes a controlling interest. Affiant further states that the following officers and/or employees of the City of Tulsa have some direct or indirect interest in the bidder's business:

By _____
(Signature)

(Title)

Subscribed and sworn to before me this _____ day of _____, 20_____.

NOTARY PUBLIC SIGNATURE

My Commission Expires:

The Interest Affidavit must be completed, signed by an authorized agent, and notarized.

BIDDER AFFIDAVIT - TITLE 74 O.S. (1974 SUPP.) 85.22-85.25

STATE OF _____ COUNTY OF _____

_____, of lawful age, being first duly sworn on oath says
Authorized Agent

1. (s)he is the duly authorized agent of _____, the bidder submitting the competitive bid which is attached to this statement, for the purpose of certifying the facts pertaining to the existence of collusion among bidders and between bidders and municipal officials or employees, as well as facts pertaining to the giving or offering of things of value to government personnel in return for special consideration in the letting of any contract pursuant to the bid to which this statement is attached.
2. (s)he is fully aware of the facts and circumstances surrounding the making of the bid to which this statement is attached and has been personally and directly involved in the proceedings leading to the submission of such bid; and
3. neither the bidder nor anyone subject to the bidder's direction or control has been a party;
 - a. to any collusion among bidders in restraint of freedom of competition by agreement to bid at a fixed price or to refrain from bidding,
 - b. to any collusion with any municipal official or employee as to quantity, quality or price in the prospective contract, or as to any other terms of such prospective contract, nor
 - c. in any discussions between bidders and any municipal official concerning exchange of money or other thing of value for special consideration in the letting of a contract.

SIGNATURE OF AUTHORIZED AGENT

Subscribed and sworn to before me this _____ day of _____, 20_____.

Signature of Notary Public

MY COMMISSION EXPIRES

The Bidder Affidavit must be completed, signed by an authorized agent, and notarized.

CONTRACTOR/BIDDER INFORMATION SHEET

To be completed by all Bidders
For Contracts with the City of Tulsa
(Please print or type)

Project No. or Description _____

Full Name of Bidder _____

Legal Identity
(Corporation, Partnership,
Individual, etc.) _____

Address _____

Telephone No. _____

FAX No. _____

Taxpayer Identification Number _____

Contact Person _____

Phone No. _____

Fax No. _____

E-mail address _____

Webpage Address _____

Price Sheet Summary

Vendor Name: _____ Signature: _____ Date: _____

You will be able to obtain a copy of the Bid Summary on the City of Tulsa's Purchase-Net Fax-on-Demand and Website shortly after bid opening.

TAC #127E

<u>ITEM</u>	<u>QTY.</u>	<u>DESCRIPTION</u>	<u>UNIT COST</u>	<u>TOTAL COST</u>
1.	500	Firefighter Suspenders Make _____ Model/Stock No. _____	\$ _____	\$ _____
2.		Commando Turnout Coat	\$ _____	
3.		Commando Super Pants	\$ _____	
4.	700	Firefighter Gloves Make _____ Model/Stock No. _____	\$ _____	\$ _____
5.	700	Flashover Hoods Make _____ Model/Stock No. _____	\$ _____	\$ _____
6.	200	Firefighter Helmets Make _____ Model/Stock No. _____	\$ _____	\$ _____
7.		Firefighter Protective Coat Make _____ Model/Stock No. _____	\$ _____	
8.		Firefighter Protective Trouser Make _____ Model/Stock No. _____	\$ _____	
9.		Leather Firefighting Boots Make _____ Model _____	\$ _____	
10.		Rubber Firefighting Boots Make _____ Model _____	\$ _____	

TAC #127E PROTECTIVE CLOTHING FIRE DEPARTMENT

INTENT:

To secure sealed bids for the supply of **Protective Clothing** for the City of Tulsa on an annual basis.

GENERAL:

Bidders are to bid new equipment of the latest manufacturer and quality workmanship in accordance with the minimum specifications as set forth in this bid.

Prices shall be firm for the duration of the contract year. The City of Tulsa reserves the right to renew the contract for an additional two (2) years, renewable annually.

Escalation and de-escalation clause shall be in effect for the two (2) one (1) year renewal options and any escalation or de-escalation of prices shall be based on the consumer price index.

In the event of price adjustment, the successful bidders shall notify the City (in writing) within sixty (60) days prior to expiration of each contract period of such price adjustments.

PRICE ADJUSTMENT OPTION

The price paid for a commodity under this contract shall not change during the term of this contract. However, if the bidder anticipates that it will not be able to maintain firm prices for any renewal period, a change in price may be allowed in a renewal of this contract if the following criteria are met:

- (1) The bidder includes a formula, to be used to calculate a change in price at the time of renewal, **in the bid for the initial contract.** Such formula shall be reasonable, objective and capable of measurement.
- (2) The contractor notifies the City, in writing, no later than 30 days prior to the expiration of the initial contract period, or any renewal period, of its intent to exercise the right to escalate or de-escalate prices under the contract. The notice shall include a calculation of the price increase or decrease requested including the formula used.

The successful bidder shall enter into a contract with the City within ten (10) days after submission of such and shall agree to post a performance bond in the amount of \$1,000.

Samples of items bid may be required for examination before award of bid. Printed literature substantiating the items bid is to be included with proposal.

Samples requested by the City shall be furnished at no charge to the City within ten (10) days after request and will be returned at the bidder's expense.

Deliveries shall not exceed sixty (60) days after receipt of the purchase order.

Each item specified shall be made available in all sizes at one price.

This bid will be awarded to the lowest bidder meeting specifications a primary source, with the second lowest bidder meeting specifications as a back-up source.

The following communities shall be allowed to purchase protective clothing items per these specifications at bid prices:

Barnsdall	Glenpool	Okmulgee	Pawhuska
Broken Arrow	Henryetta	Okay	Muskogee
Collinsville	Jenks	Owasso	Sapulpa
			Sand Springs

Fire Districts: Verdigris Fire Protection District
 Rolling Hills Fire Protection District
 Collinsville Rural Fire Protection District

ADDENDA AND INTERPRETATIONS:

If it becomes necessary to revise any part of this bid, a written addendum will be provided to all the bidders. The City of Tulsa is not bound by any oral representations, clarifications or changes made in the written specifications by City of Tulsa employees, unless such clarification change is provided to bidders in written addendum form from the Purchasing Division.

AWARD OF BID:

The bid shall be awarded to the firm whose proposal is responsive to the bid and is most advantageous to the City, considering the factors identified in the bid and Section 406E of Title 6, The Purchasing Ordinance set forth below:

406E. AWARD OF CONTRACT

1. Authority in the Mayor. The Mayor shall have the authority to award contracts within the purview of this Title.

2. Lowest Secure Bidder. Contracts shall be awarded to the lowest secure bidder. In determining "lowest secure bidder", in addition to price, the following factors shall be considered:
- a. The ability, capacity and skill of the bidder to perform the contract or provide the service required;
 - b. whether the bidder can perform the contract or provide the service promptly or within the time specified, without delay or interference;
 - c. the character, integrity, reputation, judgment, experience and efficiency of the bidder;
 - d. the quality of performance of previous contracts or services;
 - e. the previous and existing compliance by the bidder with laws and ordinances relating to the contract or service;
 - f. the sufficiency of the financial resources and ability of the bidder to perform the contract or provide the service;
 - g. the quality, availability and adaptability of the supplies or contractual services to the particular use required;
 - h. the ability of the bidder to provide future maintenance and service for the use of the subject of the contract;
 - i. where an earlier delivery date would be of great benefit to the requisitioning agency, the date and terms of delivery may be considered in the bid award, and
 - j. the number and scope of conditions attached to the bid.
 - k. if a point system has been utilized in the bid specifications, the number of points earned by the bidder.

TAC #127E
TULSA FIRE DEPARTMENT
FIREFIGHTER PROTECTIVE COAT AND PANT SPECIFICATIONS
2000 EDITION
May 30, 2000

1.0 GENERAL

- 1.01 The purpose of the clothing is to provide protection during structural fire fighting operations where there is a threat of fire or when certain physical hazards are likely to be encountered, such as during non-fire-related rescue operations, emergency medical operations, and victim extrication.
- 1.02 All garments produced shall meet or exceed the criteria set forth in the current edition of NFPA 1971 PROTECTIVE CLOTHING FOR STRUCTURAL FIRE FIGHTING, FED-OSHA CFR 1910, Subpart L, OSHA 29 CFR Part 1910.1030 and/or the requirements of CAL-OSHA title 8, Article 10.1, Para. 3406.
- 1.03 All components and composites used in the construction of garments shall be third party tested, certified and listed for compliance to NFPA 1971. The label of the third party tester shall denote certification.
- 1.04 The manufacturer shall be registered to the ISO Standard 9001 to assure a satisfactory level of quality.
- 1.05 The bid will include literature, photographs, and/or samples needed to adequately describe the product offered by the bidder.
- 1.06 Exceptions to the specifications will be listed and described on a separate sheet of paper titled "EXCEPTIONS."
- 1.07 Failure to provide an exception list may result in rejection of the bid.

2.0 PERFORMANCE

- 2.01 The garment composite, consisting of the outer shell, moisture barrier and thermal liner, shall provide a Thermal Protective Performance (TPP) of not less than 35 when tested in accordance with NFPA 1971 standard.
- 2.02 The garment composite, consisting of the outer shell, moisture barrier and thermal liner, shall provide a Total Heat Loss (THL) of not less than 130 when tested in accordance with NFPA 1971 standard.
- 2.03 The Heat Transfer Index rating shall be 13 ½ seconds for the shoulder when measured at 2 psi (pounds per square inch) and 13 ½ seconds for the knee when measured at 8 psi.

3.0 CONSTRUCTION MATERIALS

- 3.01 The outer shell material will be +/- 7.0 oz./sq. yd. 40% PBI/60% Kevlar highly constructed ripstop weave with extremely durable water-resistant alloy. Color shall be natural (gold).
- 3.02 The moisture barrier material will consist of a Nomex substrate laminated to a lightweight breathable, Crosstech (Type 2C), Teflon membrane; weighing 3.75 oz./sq. yd.
- 3.03 The thermal liner will consist of one of the preferred thermal liner will be a 3.0 oz./sq. yd. Nomex substrate laminated to approximately 5.5 oz./sq. yd. apertured, fire retardant closed cell foam. An additional layer of 3.5 oz. Glide (Nomex filament/spun) face cloth will be positioned next to the wearer. (Total weight +/- 12 oz./sq. yd.) (Rebound® SRS liner from Lion Apparel or equal)

4.0 CONSTRUCTION DESIGN

- 4.01 All outer shell stress points, including top and bottom pocket corners, pocket flap corners, top and bottom of storm flap/fly shall be reinforced using a 42 stitch minimum bar tack.
- 4.02 All trim shall be sewn with four (4) rows lockstitch 301, minimum (6) stitches/inch for most secure trim attachment. All trim shall be 3" Scotchlite II (triple trim) of lime/yellow.
- 4.03 Coat trim shall be applied as follows: **New York Pattern:** (1) 3" strip shall be set full circumference at the bottom sweep of the outer shell; (1) 3" strip shall be set around each sleeve approximately 4" above the cuff; (1) 3" strip shall be set around each sleeve just above the elbow; (1) 3" strip shall be set full circumference at the chest.
- 4.04 Pant trim shall be applied as follows: (1) strip set full circumference around the bottom of the cuff 2"/3" from the bottom hem.
- 4.05 Centered 1" below the chest trim using 3" Scotchlite Lime / Yellow letters in two lines, centered on the back, shall be the following: TULSA FIRE

5.0 SIZE AND LABELING

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

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

Do Not Remove This Label

**THIS GARMENT MEETS THE GARMENT
REQUIREMENTS OF NFPA 1971, STANDARD ON
PROTECTIVE ENSEMBLE FOR STRUCTURAL FIRE
FIGHTING, 2000 EDITION**

- 5.03 There shall be a PDF417, two dimensional bar code label permanently affixed to each garment for tracking purposes. The bar code shall contain a minimum of the following information:

- | | |
|--------|---|
| 5.0301 | unique serial number |
| 5.0302 | item description (brand, model, material color) |
| 5.0303 | lot information (date of mfg., size, etc.) |
| 5.0304 | material description |
| 5.0305 | the standard to which the garment is compliant |

- 5.04 The bar code shall be able to withstand customary wash and wear cycles. The PDF417 bar code must incorporate a minimum of a 30% “error correction” capability.

- 5.05 User Information Guide:

Each garment shall include a User Information Guide with information required by NFPA 1971. This guide shall include:

- 5.0501 Pre-use information:

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

5.0502 Preparation for use:

- Sizing and adjustment
- Recommended storage practices

5.0503 Inspection:

- Inspection frequency and details

5.0504 Don/Doff:

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

5.0505 Use:

- Proper use consistent with NFPA 1500, Standard on Fire Department, Occupational Safety and Health Program, and 29 CFR 1910.132

5.506 Maintenance and cleaning:

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

6.0 WARRANTY

- 6.01 Each garment shall have a limited lifetime warranty against defects in material and workmanship which is detailed on a card attached to each garment.

7.00 TURNOUT COAT

7.01 Coat Construction:

The coat shall be designed of a 3-panel construction in all layers to provide a proper fit. When measured at the center of the back from the collar seam to the hem bottom, the coat shall measure - 29", 32", or 35" long. Sleeves shall be of full length and of shoulder insert, 2-panel type design.

7.02 Moisture Barrier/Thermal Liner Construction:

Design shall be compatible with the outer shell so that the liner does not buckle, pull, or otherwise restrict body motion. The left and right fronts of the moisture barrier/thermal liner shall be attached to the facings at the front closure of the outer shell. The neck of the moisture barrier/thermal liner shall be secured to the neck of the outer shell collar such that when donning the coat an arm may not be accidentally caught between the outer shell and its inner linings along the neck between the armholes. Liner shall have a 2" wide, 2 ply Crosstech/Nomex pajama check extension sewn the full length of the neck. FR loop, 3/4" wide, shall be sewn on extension to tuck into pleat in outer shell collar. The liner shall have two (2) 8.5"X8.5" 6 oz. Nomex internal

pockets.

7.03 Reverse Orientation Thermal Liner Construction:

The moisture barrier shall be constructed of a woven substrate laminated to a breathable membrane and shall be sewn to the thermal liner at its perimeter with all edges of the moisture barrier and thermal liner being sewn together. The moisture barrier shall be oriented such that the membrane's substrate is against the wearer's body with the breathable membrane facing away from the wearer and against the thermal liner. The thermal liner shall be oriented with the laminated facecloth facing against the outer shell. All moisture barrier seams shall be sealed as required by NFPA 1971. The moisture barrier/thermal liner shall finish no more than 1" from the cuffs and 3" from the hem.

7.04 Moisture barrier/thermal liner attachment:

The moisture barrier/thermal liner shall be completely detachable from the outer shell for ease of cleaning by the use of hook and loop, zippers, and snaps. There shall be a brass zipper down each front facing, hook and loop along the neck to interface with collar and (1) snap at each sleeve end.

The outer most layer of the collar shall be constructed of outer shell material with moisture barrier/thermal liner material stitched at the edges and both sewn to the outer shell of the coat at the neck area. The inner most layer, facing against the wearer's body, shall be outer shell material with a sewn in pleat. Pleat shall have sewn on the underside $\frac{3}{4}$ " FR hook to engage moisture barrier extension on liner.

7.05 Collar:

The collar shall be of 4-layer configuration such that when the collar is raised it shall remain standing while providing continuous thermal and moisture protection around the neck and face. To ensure this protection, the inside of the collar shall be fully lined with (1) layer of PTFE moisture barrier material and (1) layer of thermal liner quilted to the innermost outer shell fabric layer for additional comfort. The collar shall provide proper interface with liner to insure no moisture penetration through the collar seam to inside of coat.

The outer-most layer of the collar shall be outer shell material. The one (1) layer of moisture barrier and two (2) layers of 1.5 oz. apertured E89 thermal barrier shall be the composite inner layer. The innermost layer facing the wearer's body shall be outer shell fabric. Four (4) rows of horizontal stitching will attach the inner layer of outer shell to the thermal barrier material for added stability and comfort.

The collar shall be snug fitting and shall completely cover the neck and throat area when in the raised position. Raised height shall be approximately four inches, with a contoured overlap at the front of the coat. Collar closure shall be provided by FR hook and loop 1.5" x 4", with hook portion sewn on right side of collar, and loop portion sewn on left, set horizontal. Collar shall be of such design so as not to interfere with SCBA facemasks, nor helmet.

When examined prior to donning, the turned-up collar shall completely wrap around the front of the neck opening such that left and right collars touch or overlap to maximize facial protection.

7.06 Hanger Loop:

An external hanger loop constructed of a double layer of outer shell material shall be provided on the outside of the coat at the collar seam. It shall be designed to provide long service and shall not tear or separate from the coat when the coat is hung by the hanger loop, loaded evenly with a weight of 80 lbs. and allowed to hang for (1) minute.

7.07 Thermal Reinforced Yoke:

An additional layer of 2.7 oz/sq. yd E-89 spunlaced aramid material of 85% Nomex/15% Kevlar shall be positioned between the moisture barrier and thermal liner for extra thermal protection in a high heat and compression area of the coat. It shall be sewn to the inside of the upper back portion of the thermal liner across the upper back from the back shoulder and collar seams 7" down and across the back ending at the armhole.

7.08 Shoulder Caps:

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

7.09 Bellows underarms:

Bellows underarm construction shall be used in all layers of the coat--outer shell/moisture barrier/thermal liner--ensuring maximum upper body freedom of movement including complete arm mobility when reaching up and/or forward. Bellows construction shall extend to all inner layers of the coat making it possible for the fit and freedom of movement, derived from the outer shell bellows construction, to be passed through the inner layers to the wearer's body.

The outer shell/moisture barrier/thermal liner bellows shoulder construction shall consist of an underarm and shoulder bellows of elongated football shape not less than 8" wide by not less than 15" long sewn into each of the coats fabric layers by two-needle construction. The bellows in each layer shall begin at a point corresponding to the front of the armpit, wrap around under the arm and shoulder joint, and terminate at the rear top of the shoulder.

7.10 Freedom Elbow:

The sleeve shall have an insert throughout all layers, which shall provide a natural bend in the sleeve. This insert shall be set in the back of each sleeve and shall be a shortened football shape, 6" wide in the middle and 3" wide at the seams. The outer shell insert shall consist of gray split cowhide material for abrasion resistance and thermal protection.

7.11 Sleeve Well/Wristlet Mounting:

A combination thermal liner/breathable PTFE moisture barrier leader shall be sewn no more than 1" back from the combination liner sleeve end to form a sleeve well. A .75" wide strip of FR loop fastener shall be sewn full circumference to the end of the thermal liner/PTFE moisture barrier leader to help secure the combination liner to the outer shell. This sleeve well shall prevent water and hazardous materials from entering the sleeve when arms are in a raised position.

The combination liner sleeve ends shall be inserted into the outer shell sleeve ends by means of lining up the snaps then attaching the FR loop fastener of the combination liner sleeve end with the FR hook fastener of the outer shell cuff. This method of combination liner attachment shall prevent any gaps from occurring between the combination liner and sleeve well during a full range of motion. The combination liner shall extend to within 1" of the sleeve end.

7.12 Wristlets – Isodri:

An internal wristlet shall consist of a 2-ply knit of 48% Nomex/48% Kevlar and 4% Spandex for superior recovery. Wristlet to be bronze pigment dyed by DuPont, and with extremely durable Teflon® water-resistant alloy not less than 8" extending completely over the palm with a thumbhole preventing the wristlet from sliding back. Wristlets shall be double stitched and bound to the moisture barrier/thermal liner providing extended thermal and slash protection.

7.13 Cuffs:

The cuff of the sleeve shall be reinforced with a binding of gray split cowhide leather not less than 3" in total width for abrasion resistance and thermal protection. At least 2" of the cuff reinforcement shall extend down the interior of the outer shell sleeve with a .75" wide strip of FR hook sewn full circumference to the topside of the cuff reinforcement. For added safety, (1) female snap fastener shall be set in the hook fastener to assist in attaching outer shell to moisture barrier/thermal liner.

7.14 Thermal Front Panel Construction:

There shall be continuous thermal and moisture protection around the entire torso including the coat front area beneath the storm flap. To ensure this protection, as well as reduce potential for wicking moisture to inside of liner, both right and left inside front facings of the coat outer shell shall incorporate outer shell fabric sewn to an additional layer of Gore PTFE vapor permeable film meeting all requirements for moisture barriers, extending from collar to hem.

7.15 Coat Front Closure Design:

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

7.16 Storm Flap:

A storm flap measuring not less than 3" wide, nor less than 22" in length shall be set on the outside of the right side of the coat opening for maximum thermal protection and clear drainage. The inner lining of the storm flap shall be Gore PTFE vapor permeable film meeting all requirements for moisture barriers sandwiched between two (2) layers of outer shell fabric.

7.17 Front/Storm Flap Closures:

The front closure shall consist of a #10 brass zipper such that fast closure and exit is possible yet the coat remains securely closed while working. The storm flap closure shall consist of 1.5" wide FR hook and loop attachments with FR hook fastener sewn on the left front of the coat, and corresponding FR loop fastener sewn on the inner side of the outer storm flap. The hook and loop closure shall extend the full length of the outer storm flap eliminating all exposed frontal hardware.

7.18 Semi-Bellows Pockets:

Two (2) 8" x 8" semi-bellows handwarmer pockets that expand by means of side and bottom gussets to a thickness of 1.5" at the front and bottom and 0" at the back shall be set at the bottom of the coat hem and reinforced with minimum 42 stitch bar tacks. Reflective trim shall be set on each pocket. Drainage of moisture shall be provided with (2) eyelets set at the bottom of each pocket.

Each pocket shall have a 7" diagonal opening cut at the upper rear with corresponding diagonal pocket flaps providing full closure. Each pocket flap shall measure 3" x 8.5" extending 2.5" over each side opening. Pocket flaps shall be reinforced at each top corner with a minimum 42-stitch bar tack. A hook and loop closure shall be utilized with 1.5" x 3" hook fastener set vertically to the underside of the pocket flap with corresponding 1.5" x 3" loop fastener set horizontally on the outside edge of the pocket opening.

7.19 Radio Pocket:

One 3.5" wide x 9" deep full bellows radio pocket that expands by means of side and front gussets to a thickness of 2" in front and back shall be located on left chest. Pocket shall have top and bottom pocket corners reinforced with bar tacks. Brass eyelets shall provide drainage of moisture. Pocket flaps shall extend .5" over each side of pocket and 3" deep. Flaps shall be reinforced with bar tacks.

7.20 Radio Pocket Closure:

Pocket flaps shall close using a hook and loop closure system that shall be mounted with loop fastener set on the pocket and hook fastener set on the underside of the flap.

The pocket flap shall be notched on the right side for the radio antenna.

7.21 Microphone strap:

One 1" wide by 4" long universal strap constructed of outer shell material shall be set near the top of the left shoulder. The strap is intended to accommodate a portable radio microphone/speaker with a clip type attachment.

8.00 COMMANDO STYLE LUMBAR PANT

8.01 Pant Construction:

The pant shall be no more than 1" higher in the front than a standard bunker pants with a gradual increase to 2" in the rear

8.02 Moisture Barrier/Thermal Liner Construction:

Design shall be compatible with the outer shell so that the liner does not buckle, pull, or otherwise restrict body motion. The waist of the moisture barrier/thermal liner shall be secured to the waist of the outer shell such that when donning the pant a leg may not be accidentally caught between the outer shell and its inner linings along the waist and between the legs of the pant.

8.03 Reverse Orientation Barrier:

The moisture barrier shall be constructed of a woven substrate laminated to a breathable membrane and shall be sewn to the thermal liner at its perimeter with all edges of the moisture barrier and thermal liner being sewn together and bound with non-wicking moisture barrier material. The moisture barrier shall be oriented such that the membrane's substrate is against the wearer's body with the breathable membrane facing away from the wearer and against the thermal liner. The thermal liner shall be oriented with the laminated facecloth facing against the outer shell. All moisture barrier seams shall be sealed as required by NFPA 1971. The moisture barrier/thermal liner shall finish no more than 3" from the cuffs.

8.04 Moisture barrier/thermal liner attachment:

The moisture barrier/thermal liner shall be completely detachable from the outer shell for ease of cleaning by using snaps. Nine (9) evenly spaced snaps shall secure the liner to the integral waistband; (2) snaps shall be set in leather leg tabs at each leg end.

8.05 Storm fly/closure:

The outer shell shall have an overlapping fly front running the full length of the fly on the left side. The flap shall not be less than 2.5" wide at the waistband, cut diagonally to the bottom of the fly where it shall be reinforced with a 42 stitch bartacks.

The storm fly shall be held closed along its length by means of a hook and loop fastener closure 1.5" minimum width, along the leading edge for a distance of not less than 6" from the bottom of the fly closure to the waist area for proper alignment and secure closure. Additionally, (1) snap shall be positioned at the inside top of the fly. Pant closure shall be provided by #10 brass zipper approximately 12" in length.

The storm fly shall be outer shell material, lined with a 3.5" strip of Nomex laminated to breathable PTFE film to prevent wicking.

8.06 Lumbar support:

Each pant shall have a lumbar support system integrated into the pant. This device shall provide mechanical support for the back by generating intra-abdominal pressure without increasing abdominal muscle activity. Components of the lumbar support system include a 6" x 8" orthopedic, non-absorbent, fire retardant, closed-cell foam pad, elastic webbing, metal adjusters, and pull-tabs.

The lumbar support system shall be oriented between the outer shell and liner. Each pant front shall have (2) tunnel openings reinforced with polymer coated Kevlar welts, for durability, spaced 7" apart on the front of the pant. Pull tabs, shall be constructed of black split cowhide leather, 1.5" wide x 5.5" long shall be sewn to (2) straps of 2" wide elastic webbing on each side of the pant. Elastic webbing shall be secured to center rear of pant. When the lumbar support system is deactivated, pull-tabs shall be visible on the front of pants. 1.5" wide x 5.5" long loop fastener shall be sewn on the underside of each

pull-tab to engage the system.

The right elastic straps shall each have a 2" wide x 5" long loop fastener sewn on the underside, while the left elastic straps shall each have a 2" wide x 5" long hook fastener sewn on top for engaging the system. The left side of the pant outer shell shall have 1.5" wide x 3" long hook fastener for storage of pull-tab and to help engage system. The right side of pant shall have 1.5" wide x 3" long hook fastener for storage of pull-tab and to assist in engaging the system. The foam pad shall have (1) 4" wide x 5" long strip of hook fastener to engage (2) 2" wide x 6" long strips of loop fastener sewn to the rear of the pant to secure pad in place.

8.07 Thermal fly assembly:

The moisture barrier/thermal liner shall be constructed with a 2" extension on the left side at the waist of all layers of the fly opening to assure continuous thermal and moisture protection.

At the bottom of the fly opening, this overlap shall be further secured by means of a bar tack to prevent gaping at the base of the moisture barrier/thermal liner fly when the wearer is kneeling/crawling. This bar tack shall also serve to reinforce the front end of the seat seam if stretched or stressed.

8.08 Waistband:

The waist of the pants shall be reinforced on the inside with two (2) ply of outer shell fabric material not less than 2.25" in width. The waist shall be turned under to provide double material strength with the independent waistband shall be double stitched to the outer shell.

8.09 Eight (8) suspender buttons shall be appropriately spaced around the waistband to accommodate the use of suspenders. Each of the buttons will incorporate the use of leather reinforcements on both sides of the attachment point.

8.10 Radial inseam band:

The pant inseam shall incorporate a comfort/mobility design in all layers. This design shall eliminate crotch seams, providing for a more comfortable fit while decreasing bunching of materials. Mobility shall be gained through this design by increasing leg circumference. This design shall reduce restriction of leg movement.

The banded pant insert shall run continuously from the top of the mobile knee of one leg, through the crotch, to the top of the mobile knee of the opposite leg.

8.11 Freedom knee:

The knee shall incorporate a comfort/mobility design in all layers. This design shall allow for a natural bending motion of the knee. The knee shall be gray split cowhide leather material and measure 9" across the bottom, not less than 7" on the sides and gradually increase to 12" at the center point at the apex. The apex of the knee shall allow for not less than a 1.5" bellows at the center. The radial seam shall provide a gusset that the knee can fall into when crawling, climbing, bending, kneeling, etc. The bottom of the mobile knee shall be placed not less than 10" from the cuff to fall anatomically correct. For added thermal protection, two layers of 1/8" thick, fire retardant closed-cell foam shall be positioned between the moisture barrier and thermal liner.

8.12 Cuffs:

The cuff area of the pant shall be reinforced with a binding of gray split cowhide material not less than 2" in total width for greater strength, abrasion resistance, and thermal protection.

8.13 Full bellows Pockets:

Two (2) 8" wide x 8" deep outside full bellows pockets that expand by means of side and bottom gussets to a thickness of 2" in front and back shall be located one on each fore thigh.

Pockets shall be lined with gray split cowhide leather. The back of the pocket (pant leg) shall be similarly reinforced to height of 3". The twill material shall have no unfinished seams showing.

Pockets shall be reinforced with gray split cowhide material, which extend 5" down the bottom outside of the pocket. Pockets shall be set with stitch 301, seam Ssb-2 with the top and bottom pocket corners reinforced with bar tacks for additional strength. Drainage of moisture to be provided by eyelets.

Pocket flaps shall be 9" x 4.5", folded and stitched at 1.5" width to correspond with pocket gussets. The flap shall extend 3" down to give a creased and contoured pocket flap. Flaps shall be set using stitch 301, seam Ssn-2, inverted and reinforced at each top corner with a bar tacks.

A hook and loop fastener closure system shall be set with 1.5" x 8" loop fastener on the pocket and (2) 1.5" x 2" cam stitched hook fastener on the underside of the flap spaced no less than 4" apart.

**TULSA FIRE DEPARTMENT
EZ ADJUST, "H"-BACK STYLE, SUSPENDERS SPECIFICATIONS
2000 EDITION
May 30, 2000**

1.0 GENERAL

- 1.01 The purpose of the clothing is to provide protection during structural fire fighting operations where there is a threat of fire or when certain physical hazards are likely to be encountered, such as during non-fire-related rescue operations, emergency medical operations, and victim extrication.
- 1.02 All garments produced shall meet or exceed the criteria set forth in the current edition of NFPA 1971 PROTECTIVE CLOTHING FOR STRUCTURAL FIRE FIGHTING, FED-OSHA CFR 1910, Subpart L, OSHA 29 CFR Part 1910.1030 and/or the requirements of CAL-OSHA title 8, Article 10.1, Paragraph 3406.
- 1.03 All components and composites used in the construction of garments shall be third party tested, certified and listed for compliance to NFPA 1971. The label of the third party tester shall denote certification.
- 1.04 The manufacturer shall be registered to the ISO Standard 9001 to assure a satisfactory level of quality.
- 1.05 The bid will include literature, photographs, and/or samples needed to adequately describe the product offered by the bidder.
- 1.06 Exceptions to the specifications will be listed and described on a separate sheet of paper titled "EXCEPTIONS."
- 1.07 Failure to provide an exception list may result in rejection of the bid.

2.0 EZ ADJUST, "H"-BACK STYLE, SUSPENDERS (Fire Brigade EZ Adjust Suspenders or equal)

- 2.01 The suspenders are to be highly engineered and designed to interface with the specified bunker pants. The design is to improve the range of mobility and reduce stress while in use with traditional eight (8) point attachment.
- 2.02 The standard length suspender will be 46 inches for use with Janesville Commando style lumbar support bunker pant. An optional 42 and 48 inch lengths will be made available.
- 2.03 The suspenders will be red in color and should include a silver reflective stripe.

2.04 The suspenders will be designed with two 14" front pull straps constructed as follows: 2" wide non-elastic polyester webbing shall be fed through a black military 1 1/8" O-ring and secured with a single-needle lock-stitch at one end. A black military finish steel double dee ring shall be fed through the webbing. The other end of the webbing shall be sewn to one piece of super duty 1 1/2" elastic folded over forming a V and sewn with a box X stitch. The O ring shall function as a pull strap for easily adjusting the suspenders for proper fit.

Two 17" shoulder/back straps shall be constructed as follows: 2" wide non-elastic polyester webbing shall be fed through the top half of the steel double dee ring and secured with a single-needle lock-stitch. The end of each back strap will be sewn to 1 piece of super duty elastic folded over forming a V and sewn with a box X stitch.

One 7 1/2" horizontal back strap made of 1 1/2" wide elastic webbing shall be set perpendicular between the two shoulder straps and back straps at the point of overlap, secured with a single-needle box X stitch through the joining straps.

Four pieces of 1 1/2" wide super duty elastic webbing shall be sewn at each end of the front and back straps and be secured to 2" buttonhole peerless loops constructed of .080 diameter wire with a zinc plate finish. This will allow for eight points of attachment. Each piece of webbing shall be 7" long in the back and 3" long in the front. Each peerless loop shall be configured such that they easily rotate around a suspender button to allow for freedom of motion.

2.05 Each shoulder strap shall be encapsulated with a 2.25" wide x 11" long sheath of padding constructed of 1/8" thick fire-retardant closed-cell foam laminated to a FR LENZING substrate. Shoulder pads shall be of one piece construction to allow the shoulder strap of the suspender to be padded both top and bottom. The velcro used to secure the suspender to itself shall be FR rated.

2.06 All products shall be warranted against defects in materials and workmanship for the useful life of the product.

**TULSA FIRE DEPARTMENT
FIREFIGHTER GLOVE SPECIFICATIONS
2000 EDITION
May 28, 2000**

1.0 GENERAL

- 1.01 The purpose of the clothing is to provide protection during structural fire fighting operations where there is a threat of fire or when certain physical hazards are likely to be encountered, such as during non-fire-related rescue operations, emergency medical operations, and victim extrication.
- 1.02 All garments produced shall meet or exceed the criteria set forth in the current edition of NFPA 1971 PROTECTIVE CLOTHING FOR STRUCTURAL FIRE FIGHTING, FED-OSHA CFR 1910, Subpart L, OSHA 29 CFR Part 1910.1030 and/or the requirements of CAL-OSHA title 8, Article 10.1, Paragraph 3406.
- 1.03 All components and composites used in the construction of garments shall be third party tested, certified and listed for compliance to NFPA 1971. The label of the third party tester shall denote certification.
- 1.04 The manufacturer shall be registered to the ISO Standard 9001 to assure a satisfactory level of quality.
- 1.05 The bid will include literature, photographs, and/or samples needed to adequately describe the product offered by the bidder.
- 1.06 Exceptions to the specifications will be listed and described on a separate sheet of paper titled "EXCEPTIONS."
- 1.07 Failure to provide an exception list may result in rejection of the bid.

2.0 FIREFIGHTER GLOVE (Shelby Firewall or equal)

- 2.01 The firefighter gloves will be constructed of #1 side split, 3.5 to 4.5 ounce Aqua-Thermal Cowhide.
- 2.02 The firefighter gloves will use a Crosstech moisture barrier laminated to a fully sewn flame retardant lining thereby creating a one-piece liner.
- 2.03 The glove lining will be flame retardant, fully sewn, sock type liner.
- 2.04 The firefighter gloves be available in both a gauntlet style and a wristlet style.

The gauntlet style will include an elastic cinch to ensure proper fit and to minimize the accidental removal or doffing of the glove.

The wristlet style glove will consist of a four (4) inch Nomex III rib-knitted wristlet.
- 2.05 The firefighter gloves will be provided in a minimum of six (6) sizes consisting of extra small, small, medium, large, extra-large, and Jumbo.

**TULSA FIRE DEPARTMENT
FIREFIGHTER HELMET SPECIFICATIONS
2000 EDITION
May 28, 2000**

1.0 GENERAL

- 1.01 The purpose of the clothing is to provide protection during structural fire fighting operations where there is a threat of fire or when certain physical hazards are likely to be encountered, such as during non-fire-related rescue operations, emergency medical operations, and victim extrication.
- 1.02 All garments produced shall meet or exceed the criteria set forth in the current edition of NFPA 1971 PROTECTIVE CLOTHING FOR STRUCTURAL FIRE FIGHTING, FED-OSHA CFR 1910, Subpart L, OSHA 29 CFR Part 1910.1030 and/or the requirements of CAL-OSHA title 8, Article 10.1, Paragraph 3406.
- 1.03 All components and composites used in the construction of garments shall be third party tested, certified and listed for compliance to NFPA 1971. The label of the third party tester shall denote certification.
- 1.04 The manufacturer shall be registered to the ISO Standard 9001 to assure a satisfactory level of quality.
- 1.05 The bid will include literature, photographs, and/or samples needed to adequately describe the product offered by the bidder.
- 1.06 Exceptions to the specifications will be listed and described on a separate sheet of paper titled "EXCEPTIONS."
- 1.07 Failure to provide an exception list may result in rejection of the bid.

2.0 FIREFIGHTER HELMET

- 2.01 The helmet will be a Cairns model 660C metro.
- 2.02 The helmet shell will be constructed with through color fiberglass reinforced high temperature composite.
- 2.03 The helmet shell will be available in the colors of black, red, yellow, blue, and white.
- 2.04 The helmet will be provided with non-corroding, high temperature, glass filled polymer face-shield/goggle hardware.
- 2.05 The helmet will be provided with ultra high temperature (TPR) edge trim that will not melt or drip.
- 2.06 The helmet will be provided with a Nomex chinstrap with a one hand quick release buckle and postman slide for quick and easy adjustment.
- 2.07 The helmet will be provided with Pbi/Kevlar earlaps for increased neck/ear coverage and protection.
- 2.08 The helmet will be provided with a high temperature impact cap and impact

cap liner.

- 2.09 The helmet will be provided with a shell release mechanism that allows the shell to separate from the remainder of the helmet upon receipt of an upward force placed upon the helmet shell.
- 2.10 The helmet will be provided with a removable flannel cushion liner and easy cleaning, repair, and replacement.
- 2.11 The helmet will be provided with a three-position rear ratchet height adjustment to allow a comfortable fit for all head sizes between 6-1/8 and 8-7/8.
- 2.12 The helmet suspension will include an SCBA interface front headband to allow adjustment and interface with full face respirators.
- 2.13 The helmet will be provided with a replaceable face-shield.
- 2.14 The face-shield will include wing protectors for added strength.
- 2.15 The helmet will include a five (5) year shell replacement warranty.

**TULSA FIRE DEPARTMENT
FIREFIGHTER FLASHOVER HOOD SPECIFICATIONS
2000 EDITION
May 28, 2000**

1.0 GENERAL

- 1.01 The purpose of the clothing is to provide protection during structural fire fighting operations where there is a threat of fire or when certain physical hazards are likely to be encountered, such as during non-fire-related rescue operations, emergency medical operations, and victim extrication.
- 1.02 All garments produced shall meet or exceed the criteria set forth in the current edition of NFPA 1971 PROTECTIVE CLOTHING FOR STRUCTURAL FIRE FIGHTING, FED-OSHA CFR 1910, Subpart L, OSHA 29 CFR Part 1910.1030 and/or the requirements of CAL-OSHA title 8, Article 10.1, Paragraph 3406.
- 1.03 All components and composites used in the construction of garments shall be third party tested, certified and listed for compliance to NFPA 1971. The label of the third party tester shall denote certification.
- 1.04 The manufacturer shall be registered to the ISO Standard 9001 to assure a satisfactory level of quality.
- 1.05 The bid will include literature, photographs, and/or samples needed to adequately describe the product offered by the bidder.
- 1.06 Exceptions to the specifications will be listed and described on a separate sheet of paper titled "EXCEPTIONS."
- 1.07 Failure to provide an exception list may result in rejection of the bid.

2.0 FIREFIGHTER FLASHOVER HOOD (Fire Brigade model 212 or equal)

- 2.01 The flashover hood will be constructed of no less than 8.5 ounces per square yard 100 percent Nomex knit fabric.
- 2.02 All seams will be a three surge stitch with a minimum of eight stitches per inch. All seams will be bar-tacked at all stress points with a minimum of twenty-six (26) stitches. All bindings will be sewn with a double needle bottom cover stitch with a minimum of eight (8) stitches per inch.
- 2.03 The hood shall be made of two (2) layers of fabric and shall be of a one (1) piece construction by means of a single seam from the top of the face opening back over the head and down to the back of the neck to form the hood shape.

- 2.04 The face opening will be designed to provide maximum protection with or without the use of a full face respirator. The opening will be round measuring 4.6 inches, + 1 inch, (-) 0 inches. A binding made of self material will be installed around the face opening using a double needle cover stitch.
- 2.05 The face opening will include .25 inch elastic inside the binding for extended elasticity. The elastic shall not come in contact with the wearer's body.
- 2.06 The hood bid shall be made with two layers of 100 percent Nomex and a two piece construction. Both the front and rear bibs will measure 13 inches at their widest point (unstretched). The front bib will measure a minimum of eleven (11) inches long from the hood seam to the bottom of the bib and the back bib will measure no less than six and one quarter (6.25) inches from the hood seam to the bottom of the bib.

On the shoulder, the hood will measure three (3) inches from the hood seam to the outside of the bib to allow the bibs to lay flat with no puckering. The material for the bibs will be cut in such a way that when installed as a bib, it will have the natural stretch of the material in the vertical position. The bib shall have a self material binding at the bottom of the bibs sewn with a double needle stitch.

- 2.07 The hood will include the certification label and a hemmed opening on the bottom of the hood seam where the label can be tucked away between the layers of material to protect the label from damage and to improve user comfort.

**TULSA FIRE DEPARTMENT
LEATHER FIREFIGHTER BOOT SPECIFICATIONS
2000 EDITION
May 28, 2000**

1.0 GENERAL

- 1.01 The purpose of the clothing is to provide protection during structural fire fighting operations where there is a threat of fire or when certain physical hazards are likely to be encountered, such as during non-fire-related rescue operations, emergency medical operations, and victim extrication.
- 1.02 All garments produced shall meet or exceed the criteria set forth in the current edition of NFPA 1971 PROTECTIVE CLOTHING FOR STRUCTURAL FIRE FIGHTING, FED-OSHA CFR 1910, Subpart L, OSHA 29 CFR Part 1910.1030 and/or the requirements of CAL-OSHA title 8, Article 10.1, Paragraph 3406.
- 1.03 All components and composites used in the construction of garments shall be third party tested, certified and listed for compliance to NFPA 1971. The label of the third party tester shall denote certification.
- 1.04 The manufacturer shall be registered to the ISO Standard 9001 to assure a satisfactory level of quality.
- 1.05 The bid will include literature, photographs, and/or samples needed to adequately describe the product offered by the bidder.
- 1.06 Exceptions to the specifications will be listed and described on a separate sheet of paper titled "EXCEPTIONS."
- 1.07 Failure to provide an exception list may result in rejection of the bid.

2.0 LEATHER FIREFIGHTING BOOTS (Thorogood model 804-6371 or equal)

- 2.01 The following specifications are intended to describe a 14 inch bunker style leather structural firefighter boot constructed of Goodyear storm welt black leather.
- 2.02 The boot lining will consist of Cambrelle with a Symaptex or Crosstech moisture barrier. All seams are to be sealed with applicable sealing tape.
- 2.03 The boot will use a Vibram Security heavy-duty lug sole that is non-marking and oil, heat, and slip resistant.
- 2.04 The upper fitting is to be sewn with 8 – 10 stitches per inch, Kevlar thread, single needle stitched top banding, side and backstays, double needle vamping and garrison, and triple needle across the vamp tip. All seams are to be waterproofed with J9502AE urethane sealer.

The inseaming to combine the welt, upper, and insole will be a minimum of 3.5 stitches per inch. Goodyear stitching used to combine the sole, midsole, and welt shall be 5 to 8 stitches per inch. Inseam and Goodyear thread is to be Kevlar.

All thread used in the upper fitting, inseam, and goodyear outsole will be Kevlar 500 degree F non-melting thread.

- 2.05 The boot will include a fiber heel counter for increased heel stability.
- 2.06 The boot will include a removable contoured polyurethane cushion footbed with a brushed polyester cover for moisture wicking.
- 2.07 The boot will include a stainless steel puncture resistant bottom plate.
- 2.08 The boot will include a three (3) ribbed steel ladder shank for superior arch support. The shank will not deflect more than .25 inches at 400 pounds when tested to NFPA 1971.
- 2.09 The boot will include an oil resisting flexible rubber mid-sole for a strong and flexible bond between the sole and upper.
- 2.10 The boot will include a Goodyear #438 black oil storm welt.
- 2.11 The boot will include a tempered steel safety toe and toe cap padding for greater comfort.
- 2.12 The exterior surface of the toe will be protected by a replaceable scuff-resisting exterior toecap.
- 2.13 The boots will be made in the three widths:
Men's size 5-13 (full and half sizes) 14-15 (full size)
Women's size 5-10 (full and half sizes)

**TULSA FIRE DEPARTMENT
FIREFIGHTER RUBBER BOOT SPECIFICATIONS
2000 EDITION
May 28, 2000**

1.0 GENERAL

- 1.01 The purpose of the clothing is to provide protection during structural fire fighting operations where there is a threat of fire or when certain physical hazards are likely to be encountered, such as during non-fire-related rescue operations, emergency medical operations, and victim extrication.
- 1.02 All garments produced shall meet or exceed the criteria set forth in the current edition of NFPA 1971 PROTECTIVE CLOTHING FOR STRUCTURAL FIRE FIGHTING, FED-OSHA CFR 1910, Subpart L, OSHA 29 CFR Part 1910.1030 and/or the requirements of CAL-OSHA title 8, Article 10.1, Paragraph 3406.
- 1.03 All components and composites used in the construction of garments shall be third party tested, certified and listed for compliance to NFPA 1971. The label of the third party tester shall denote certification.
- 1.04 The manufacturer shall be registered to the ISO Standard 9001 to assure a satisfactory level of quality.
- 1.05 The bid will include literature, photographs, and/or samples needed to adequately describe the product offered by the bidder.
- 1.06 Exceptions to the specifications will be listed and described on a separate sheet of paper titled "EXCEPTIONS."
- 1.07 Failure to provide an exception list may result in rejection of the bid.

2.0 RUBBER FIREFIGHTING BOOTS (LaCrosse FireTech model 1500 or equal)

- 2.01 The rubber firefighter boot will be an insulated sixteen (16) inch rubber style firefighter boot.
- 2.02 The boot will incorporate a molded Vibram lug outsole and heel for extra long wear and durability.
- 2.03 The heel will be enlarged for greater support and sure footedness.
- 2.04 The boot will include an internal heel guard for easy donning and doffing.
- 2.05 The boot will be insulated and an extra thick felt midsole will be provided.
- 2.06 The boot will be provided with a built-in cushioned insole.
- 2.07 The boot lining will consist of Kevlar/Nomex.
- 2.08 The boot will be provided with a steel toe and stainless steel midsole.
- 2.09 An extra wide, heavy-duty steel shank will be provided to maximum arch support and comfort.
- 2.10 External rubber shin guard s will be provided.

- 2.11 Firmly anchored pull-up loops will be provided and designed to minimize chafing.
- 2.12 The boots will be provided in three widths:
 - men's size 5-13 (full and half sizes) and 14-15 (full size)
 - women's size 5-10 (full and half sizes)