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# Fire Resistant Clothing Overview

Advanced Planning Brief for Industry

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# Briefing Topics



- Fire Resistant Products
  - Army Aviation Combat Uniform (A2CU)
  - Improved Combat Vehicle Crewmen's Coverall (iCVC )
  - Fire Resistant Army Combat Uniform (FR ACU)
  - Army Elements Fleece (AEF)
  - Fuel Handlers' Coverall (FHC)
  - Ghillie Suit Accessory Kit Upgrade (GSAK)
  - Fire Resistant Environmental Ensemble (FREE)
  - Army Combat Shirt (ACS)
  - Army Combat Pants (ACP)
  
- Summary



# Fire Resistant Clothing



**Army Aviation  
Combat Uniform  
(A2CU)**



**Army Elements Fleece**



**FR ACU**



**Improved  
Combat Vehicle  
Crewman's  
Coverall (iCVC)**



# Fire Resistant Clothing



### Army Combat Shirt (AC)



### Army Combat Pants



### Ghillie Suite Accessory Kit (GSAK)



### Block II Fuel Handler's Coverall



### Fire Resistant Environmental Ensemble (FREE)



**NOTE: These pictures are representative items of actual system garments.**



# Army Aircrew Combat Uniform (A2CU)



**OBJECTIVE:** To provide an improved two piece flight suit for Army aircrew members

**BOI:** 3 per aircrew member: Additional uniforms when authorized by commanding officer (WABCO)

**NSNs:** Coat: 8415-01-526-9177 (s)  
Trousers: 8415-01-526-9728 (s)

## SYSTEM DESCRIPTION:

- The A2CU upgrades the current aviation protective clothing system to improve operational effectiveness, fit, suitability, and durability, addressing near-term Air Warrior requirements and adding the universal camouflage pattern to all outer layers. All materials offer superior flame resistance and comfort.
- Meets Air Warrior requirements

## ACTIONS:

- Fielding plan. Modernization through spares
- Sustainment. Units requisition through DSCP IAW instructions posted on the Air Warrior Extranet, Forum section
- Deploying units. Fielding 4 per deployers aviation crewmember IAW ONS
- Army Wide. No centrally funded Army-wide fielding is planned



# Improved Combat Vehicle Coveralls (iCVC)



## SYSTEM DESCRIPTION:

- The Improved Combat Vehicle Crew Coverall (iCVC) is an upgrade to current issue coverall while also meeting Mounted Warrior requirements for improved fit, function, durability in the universal camouflage pattern (UCP). Alternative fabrics and anti-abrasion technologies are under evaluation.

## ACTIONS:

- iCVC Technical Data package sent to DSCP in Mar 08
- DSCP working to modify existing contract of iCVC's to include new design and fabric
- PM SEQ fielding 4 per deploying CVC crewmember as an ONS requirement

**OBJECTIVE:** The **Improved Combat Vehicle Coveralls (iCVC)** upgrades the current issue coverall

**BOI:** 3 per 19D and 19K serving as CVC

**NSNs:** 8415-01-560-4719 (xs-sht) (Nomex)



# Fire Resistant Army Combat Uniform (FR ACU)



## SYSTEM DESCRIPTION:

- The FR ACU is similar in design as the ACU but made out of fire resistant material. FR Tabs on the left sleeve cuff and left pants pocket differentiate FR ACU from the ACU
- Advanced fabrics provide enhanced FR protection without sacrificing other performance factors critical to the ground Soldier such as durability, breathability, and moisture wicking

## ACTIONS:

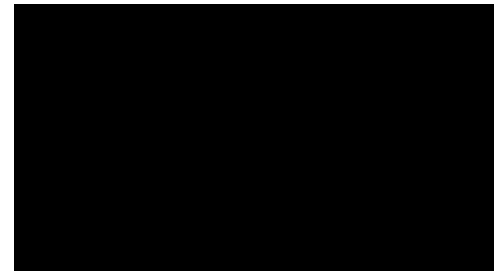
- FR ACUs Type 1 began arriving in theatre 3QFY07
- Contract for new FRACU Type 2 anticipated to be awarded by May 08
- FY09 procurements will be split between both types to ensure adequate supply

**OBJECTIVE:** To provide measurable FR improvement over existing ACU without increasing Soldier heat-stress or sacrificing other performance attributes of the current NYCO ACU

**BOI:** 4 per deploying Soldier

## NSN/MCNs:

Defender Coat: 8415-D1-519-8491 (s) XS-S  
Trouser: 8415-D1-519-8404 (s) XS-S





# Army Elements Fleece (AEF)



## SYSTEM DESCRIPTION:

- Improved fire resistant integrated fleece soft shell coat and trousers designed for aviators
- Provides enhanced insulative water and wind resistance over standard RFI issue fleece in a stretchy, fire resistant garment, in the universal camouflage pattern for aviation crewmember

## ACTIONS:

- FY 07 RFI requirement
- Fielding began through RFI in March 2007
- This is an interim item and will be replaced by the FREE system FY 2009
- No further contracting actions are anticipated

**OBJECTIVE:** To provide a versatile, insulating system that allows Air Crews to adapt to varying mission requirements and environmental conditions

**BOI:** 1 set per assigned, deploying aircrew member + 60% as initial spares

**MCNs:** 8415-01-F00-1291(s) Coat  
8415-01-F00-1296(s) Trouser



# FR Fuel Handlers' Coveralls



## SYSTEM DESCRIPTION:

- Liquid-penetration-resistant for JP8 and Water and static dissipative protection made from FR material
- Coveralls can be worn over the ACU or by themselves and offer a high degree of protection from POLs
- Potential Block II solutions include innovative materials, fabric structures, advanced coatings, etc.

## ACTIONS:

- Block II sources sought notice identified only one potential manufacturer
- To date. No evaluated Block II coverall has met all requirements
- Pyroman test for new prototype was Mar 08
- Technical test for new prototype in May 08

**OBJECTIVE:** To Provide environmental and electrostatic protection for Soldiers handling fuel with fire resistant material. Block II upgrade will incorporate the universal camouflage pattern and fire resistance

**BOI:** 2 pair per 92F/L

**NSNs:** TBD



# Modular Ghillie Suit and Ghillie Suit Accessory Kit (GSAK) Upgrade (SEP)



## SYSTEM DESCRIPTION:

- Improved counter-surveillance protection, protection from flame and thermal threats, increased mobility and agility, increased multi-system operability, and anti-odor/anti-microbial properties
- Greatly enhanced kit that will make it easier for Soldiers to assemble and reduce out of pocket expenses

## ACTIONS:

- Performed initial requirements assessment with Sniper School at Fort Benning 1FY07-2FY07
- USAIC downselected components for the kit upgrade 1FY08
- The Army modified the existing GSAK specification to include the new components 2FY08
- Upgraded GSAK SRP will be provided to DSCP NLT 4FY08 for sustainment
- LUE scheduled with the Sniper School 3FY08 – 2FY09 to gather long-term user data

**OBJECTIVE:** The GSAK upgrade will provide US Army Snipers with an improved camouflage system that provides protection to meet unique mission, safety and environmental requirements.

**BOI:** Fire Resistant Garment – one per Soldier attending USAIC Sniper Course; GSAK – one per Soldier attending USAIC Sniper Course; additionally one per Soldier WABCO

**NSNs:** TBD





# Army Combat Shirt (ACS)



**OBJECTIVE:** To develop, evaluate, and field the Army Combat Shirt (ACS) in order to dramatically reduce heat stress and increase Soldier comfort in a hot weather environment while providing protection from flame and thermal threats. The ACS will only be worn when wearing IBA

**BOI:** 2 per deploying Soldier

**NSNs:** 8415-01-548-7206(s) M/R

## SYSTEM DESCRIPTION:

- The ACS enhances and maximizes Soldier capabilities of extended mission duration, reduced heat stress and reducing burn injury. The shirt's features include superior moisture wicking ability, anti-microbial treatment, fire resistance (FR), and anti-abrasion elbow pads.
- When coupled with an FR ACU pant, this system will greatly reduce risk of burn injury and reduce Soldier heat stress

## ACTIONS:

- Initial fielding requirement approved by DA for theater as an FY 08 ONS
- ACS is expended to become an RFI item for FY09
- FY08 requirement produced through Native 8a program
- FY09 requirement will be procured through solicitation open to small business

## FUTURE: Exploring through initial R&D

- Winter Army Combat Shirt (WACS)
- Extreme Army Combat Shirt w/integrated DAPS and potentially bio-monitoring sensors in initial R&D phase



# Army Combat Pants (ACP)



**OBJECTIVE:** To develop, evaluate, and field the Army Combat Pant (ACP) in order to dramatically reduce catastrophic failure of the seat and knees and increase Soldier protection from flame and thermal threats.

**BOI:** TBD

**NSNs:** TBD

## SYSTEM DESCRIPTION:

- The ACP is a pant designed to give Soldiers protection from harsh terrain while deployed in theater. Features include fire resistance (FR) material and anti-abrasion seat and knee pads
- 9 variants being tested to evaluate each version's suitability to address catastrophic failures of ACU trouser seats

## ACTIONS:

- LUE ongoing in HI, 6-13 Apr, AK, 14-22 Apr, and VT 11 May–14 Jun
- Soldier feedback will be used to build a superior ACP design
- Downselect top 2 or 3 candidates for larger LUE, anticipated for 1FY09
- Requirements and long term contracting strategy TBD



# Milestones



<b>FR Product</b>	<b>Key Milestones</b>	<b>Projected Contract Actions</b>
Army Aviation Combat Uniform (A2CU)	Oct 07 final version provided to DSCP	None additional
Improved Combat Vehicle Crewmen's Coverall (iCVC)	Mar 08 final version provided to DSCP	None additional
Fire Resistant Army Combat Uniform (FR ACU)	Type 2 technical down select complete Mar 08	Type 2 contract award Apr 08
Army Elements Fleece	Mar 07 – first unit equipped (FUE)	None additional
Fuel Handlers' Coverall (FHC)	Technical test for new prototype in May 08	TBD
Ghillie Suit Accessory Kit Upgrade (GSAK)	4FY08 SRP to DSCP	None additional
Fire Resistant Environmental Ensemble (FREE)	Phase 3 downselection to 1 winning system 3FY08	Production order for winning system Jul 08
Army Combat Shirt (ACS)	ACS will become a RFI item for FY09	Solicitation f/small business 3FY08
Army Combat Pants (ACP)	Initial development underway	TBD



# Summary



- Joint Coordination
  - USMC & USAF participation on FREE SSEB
  - USAF FRACU/ABU
  - USAF ACS
  - Information exchange w/USMC
  
- Continued Data Exchange with the BAMC Burn Center/Institute of Surgical Research
  
- Permethrin
  
- Green FR Program