



PROGRAM EXECUTIVE OFFICE SOLDIER

THE BEST
FOR THE BEST

Family of Flashlights

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Clothing and Individual Equipment

Agenda



- Program Overview
- 2009 Certification Process
- Future of the AFFL
- Lessons Learned



Program Overview



- Purpose of FOF Program
 - Provides Soldiers with a complete illumination capability
 - Increase illumination
 - Reduce size and weight
 - Replace angle head flashlight

- Different Variants
 - Hands Free Helmet Light (HFHL)
 - Basic White Light (BWL)
 - Tactical Handheld Light (THL)
 - Weapon Mounted Light (WML) (PM SSL)
 - Crew Served Weapon Light (CSWL) (PM SSL)



2009 CERTIFICATION PROCESS



FY09 Sources Sought



- Original Sources Sought Announcement posted 6 Jun 08, with response date of 30 Jun 08 via Fed Biz Ops (W911SR-08-X-XXXX)
- Amendment posted on 15 Jul 08 with response date of 30 Jul 08
- Eleven companies responded; and nine companies participated in the FY09 AFFL Testing



Hands Free Helmet Light (HFHL) Sources Sought Requirements



- 1) Must be compatible with the Advanced Combat Helmet (ACH) and side mountable with no helmet modification
- 2) Must provide a minimum of 5 lumens for 24 hours
- 3) Dimensions must not exceed 3" X 3" X 2"
- 4) Power source must be AA or Lithium 123 batteries
- 5a) Must provide white light color and integrated secondary color of red or blue
- 5b) Must provide IR capability
- 6) Must weigh no more than 4 oz. with power source and mounting accessories
- 7) Must be subdued in color and non-reflective (Foliage Green, Desert Sand, Black, and Urban Gray)



Basic White Light (BWL) Sources Sought Requirements



- 1) Must provide a clip for secure fastening
- 2) High power settings must provide a minimum of 40 lumens continuous for 60 minutes
- 3) Dimensions must not exceed 6" in length
- 4) Power source must be AA or Lithium 123 batteries
- 5) Weigh no more than 6 oz with power source
- 6) Be subdued in color and non-reflective (Foliage Green, Desert Sand, Black, and Urban Gray)



Tactical Handheld Light (THL) Sources Sought Requirements



- 1) Must provide a clip for secure fastening
- 2) High power settings must provide a minimum of 40 lumens continuous for 60 minutes
- 3) Dimensions must not exceed 6" in length
- 4) Power source must be AA or Lithium 123 batteries
- 5a) Must provide white light color and integrated secondary color of red or blue
- 5b) Must provide IR capability
- 6) Weigh no more than 6 oz.
- 7) Be subdued in color and non-reflective (Foliage Green, Desert Sand, Black, and Urban Gray)

Test Schedule FY09 AFFL



- ***Phase I: (9/11/08 -10/23/08)***
 - Physical Characteristics/Lumens Testing
 - Physical Criteria was pass/fail

- ***Phase II: (10/28/08 – 12/12/08)***
 - Technical Environmental Testing
 - Candidates must pass all 5 environmental tests
 - A minimum of 4 of 5 samples must pass each test (80%)

- ***Phase III: (1/07/09-3/04/09)***
 - User Assessment

- **Scoring Conference (3/09/09 – 04/16/09)**



Phase I

Physical Characteristics Verification



Retaining Clip

Validation – Observation and operation

Power setting and duration

Validation - Observation and operation

Dimensions

Validation - Measured using calipers

Battery type

Validation – Observation and battery life performance test

Weight with Power Source

Validation – Weighed using precision scales

Color Scheme

Validation - Observation and operation

Non-Market Filters provided

Validation - Observation

Illumination performance – TECOM TOP 1-2-610, Procedure 5.1

Lighting Validation – Performance testing at varied distances and across beam



Phase II Environmental Testing



1. **Hot/Cold Operational Testing** – MIL-STD-810F Test Method 501.4, Procedure II (Hot Env. 90 to 120 deg F cyclic) and 502.4, Procedure II (Basic Cold -6 to -24 deg F)

Validation - 3 day cyclic exposure in each environment with functional checks every 8 hours.

2. **Salt Fog** – MIL-STD-810F Test Method 509.4

Validation – 24hr soak, 24 hr dry x 2 with 5% salt solution fogging at 95 deg F with functional checks every 12 hrs

3. **Humidity** – MIL-STD-810F Test Method 507.4

Validation – 5, 48 hr exposure cycles at 30 – 60 deg C and 95% humidity with functional checks every 12 hrs

4. **Drop Testing 5 and 10 feet** – MIL-STD-810F Test Method 516.5, Procedure IV; USAIC directed criteria of 5 and 10 feet

Validation - Dropped from both distances on 3 axis', top, bottom, side

5. **Immersion** – MIL-STD-810F Test Method 512.4

Validation – 3 hour immersion in 3 ft of water with functional test after immersion and after 24 hour dry time



Phase III User Assessment



Durability and Performance TOP 1-2-502 "Durability, TOP 10-2-021, General Performance Tests of CIE and TOP 1-2-610, Human Factors Engineering Procedure 5.11, Individual Performance Assessment

Validation - Land Navigation and obstacle course maneuvers in day (carriage compatibility) and night time conditions - Target acquisition and identification at various distances

MOLLE (FLC) and mission compatibility

Validation - Observation and subjective feedback on personal stowage and carriage on FLC during Performance Testing

Warfighter Subjective Assessment TOP 1-2-610 Human Factors Engineering Procedure 5.18, Questionnaires and Interviews.

Validation – Soldier subjective feedback throughout testing and final questionnaire (6 point Likert scale) for each candidate



2009 AFFL



<u>Manufacturer</u>	<u>Model</u>
<u>Basic White Light</u>	
GERBER	EXPERT M
PHANTOM	34-S
STREAMLIGHT	TL2-LED
FIRST LIGHT	TOMAHAWK-GP
SUREFIRE	E2D
SUREFIRE	E2L
SUREFIRE	BACKUP
ENGERIZER	1AA LITHIUM
<u>Handfree Helmet Light</u>	
STREAMLIGHT	SIDEWINDER COMPACT
<u>Tactical Handheld Light</u>	
GERBER	RECON M-11
PHANTOM	41-S
STREAMLIGHT	SIDEWINDER
FIRST LIGHT	TOMAHAWK-NV
SUREFIRE	KROMA
ENGERIZER	GEN 2 HARD CASE



Future of AFFL



- AFFL will be updated every 2 years
- Testing criteria may change from certification to certification
 - Test methods and criteria are tailorable, IAW MIL-STD-810F
- ATC is the test agency for the certification