NATO Weapons & Sensors Working Group Update to the NDIA Joint Armaments Forum

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Chairman

For NATO Interoperability is the issue Based on 2011 Deployments

- 42 Nations have forces in Afghanistan
- 25 of these are members of LCG DSS developing Dismounted Soldier capabilities.

Albania	140	Finland	110	Lithuania	200	Spain	780		
Australia	1090	France	3160	Luxemburg	9	Sweden	430		
Austria	3	Georgia	1	Netherlands	1770	The former Yugoslav Republic of Macedonia*	165		
Azerbaijan	90	Germany	4050	New Zealand	160	Turkey	730		
Belgium	510	Greece	145	Norway	485	Ukraine	10		
Bosnia and Herzegovina	2	Hungary	310	Poland	2000	United Arab Emirates	25		
Bulgaria	470	Iceland	8	Portugal	90	United Kingdom	9000		
Canada	2800	Ireland	7	Romania	1025	United States	29950		
Croatia	295	Italy	2795	Singapore	8				
Czech Republic	340	Jordan	7	Slovakia	230				
Denmark	700	Latvia	165	Slovenia	80	Total (appx)	64,500		
Estonia	150								

- **Standardization: The development and implementation of concepts, doctrines, procedures and designs in order to achieve and maintain the compatibility, interchangeability or commonality which are necessary to attain the required level of interoperability, or to optimise the use of resources, in the fields of operations, materiel and administration**

Three Levels of Standardization

AAP 6

Three Levels

- **Compatibility**: The suitability of products, processes or services for use together under specific conditions to fulfil relevant requirements without causing unacceptable interactions (04 Oct 2000).
- **Interchangeability:** The ability of one product, process or service to be used in place of another to fulfil the same requirements (04 Oct 2000).
- **Commonality**: The state achieved when the same doctrine, procedures or equipment are used (04 Oct 2000).

OUR GOAL is:

- **Interoperability:** is the ability to act together coherently, effectively and efficiently to achieve Allied tactical, operational and strategic objectives (03 Dec 09)

NAAG Structure 2012, Major Non-Entitled Groups (*)

NAAG

1. Planning and Analysis - NPAT

LCGDSS

1.Soldier Capability Assessment- SCAG
2.Combat Clothing CCIEP
3.Weapon-Sensor
4.Non Lethal Capability – NLC
5.NLC Kinetic Effect
6.Vehicle Arresting
7.Power
8.Soldier C4I
9.Ammunition Interchangeability

ICGIF

1.Ballistics, Effectiveness, S4
2.Doctrine , Terminology, Symbology
3.Procedures
4.Future Concepts
5.IER

LCGLE

1.Military Vehicle Electronics-MILVA
2. Passive Protection
3.Defensive Aids Suites-DAS
4.Active Protection
5.Unmanned Ground Vehicles
6.Future Armored Vehicles

JCBRNDCDG

1.Physical Protection
2.Detection, ID, Monitoring-DIM
3.Hazard Management
4.Doctrine and Terminology
5. Training and Education
6. Warning and Reporting

JCGGBAD

1.GBAD C4I Interoperability
2.Inner-Outer Layer
3.Countering RAM

JCGVL

1.Future Heavy Transport-FHTH
2.Degraded Visual Environment-DVE

(*) Groups are in no specific order

ToR for Weapons & Sensors WG

- The group is responsible for all issues related to dismountable soldier's weapon systems, grenades and shoulder launched and guided anti-tank weapons, as well as dedicated sensors (including, but not limited to day and night sights, laser designators, tactical lights and fire control systems).
- **The group is responsible for training equipment as associated with our ToR equipment**
- The weapon system includes the weapon itself, different types of ammunition and the dedicated accessories.
- The group is also responsible for the interface of the weapons and sensors with the various other parts of the soldier system.

How is standardization done?

- At least 12 nations have to be interested.
- A ToE is formed.
- They will develop a draft STANAG.
- This will be presented to the main group.
- It will be approved under a ”silence procedure” (SP).
- The STANAG will then be sent to the NATO **Standardization Agency (NSA)** for ratification and implementation by the nations.
- Currently there are approx 1400 STANAG’s.

Current work regarding W&S STANAG's (2014)

- **STANREC 4498 ED2 "Soldier Systems Representative Targets, Helicopters and Unarmored Vehicles**". DEU lead. Approved by LCGDSS. Endorsed by NAAG. NSA reports that Promulgation Date 17-10-2013 (Action Closed)

- **STANREC 4536 ED2 "Soldier Systems Representative Targets, Unfortified and Fortified Structures**". NLD lead. Approved by LCGDSS. Endorsed by NAAG. NSA reports that Promulgation Date 17-10-2013 . Spain provided additional information. (WITHOUT BREAKING OF SILENCE PROCEDURE). W&S will incorporate these comments during the next update of the STANREC

Current work regarding W&S STANAG's (2014)

- **STANAG 4512 "**Dismounted Personnel Targets" – **Need new Volunteer to update this STANAG**. Last update was on 2004-04-06.

- **STANAG 4513** "Incapacitation & Suppression" (GBR). GBR will provide the W&S group a draft update at the October 2014 meeting

- **STANAG 4740** NATO Powered Rail - Closed: AC/225-D(2014)0002 under silence 14 March, covering AEP-90

Current Team Of Experts - D/14

- **D/14 Team of Experts -** The purpose of this ToE is to update the D/14 NATO Small Arms Test Manual. The manual was jointly written in the 1960s by Belgium, France, Germany, Netherlands, United Kingdom and United States. The Manual was completely revised in the early 1970s by an international group of experts to define a series of assessment tests for small arms weapons and ammunitions. These tests are to assess the performance characteristics against agreed NATO requirements.
- Currently outdated
- 13 Countries are participating in the rewrite of this document

Current Team Of Experts – Suppressors

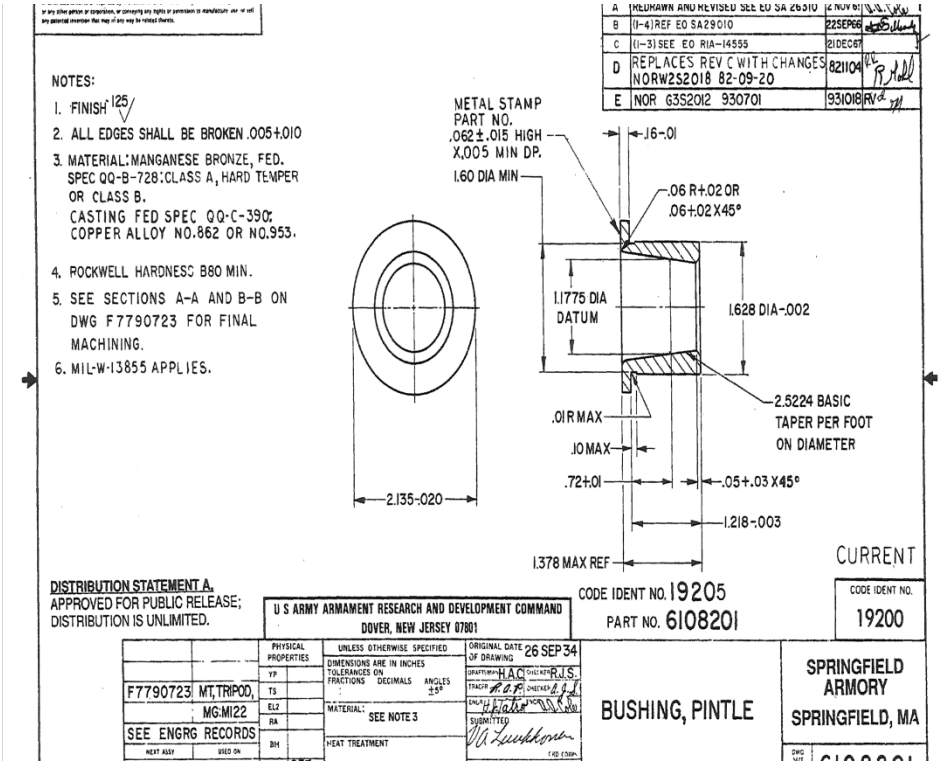
- Why a ToE on Suppressors?
- More NATO nations are now interested in the performance of weapon suppressors than ever before
- Recognised lack of standards for determining the full system level effectiveness of suppressors
- Simultaneous standardisation of all aspects would be too big, although all nations are working on methodologies.
- The first one to tackle (simplest!) Acoustic signature.

Acoustic signature measurement

- Most common approach MIL-STD-1474D (or themes there of)
- Although other similar methods are available.
- Recognised that none are optimised for Suppressor evaluation:
  - In the near field (repeatability)
  - Close to the ground or indoors (reflections)
  - NIHL focus (detection and environmental noise pollution)
  - Rendering down to simplistic MOPS (no frequency data)
- D14 Annex M attempt to provide method
- Develop robust standard considering practicalities
- 8 countries are actively participating in this ToE

Current Team Of Experts – G/3 MG Cone

- Why a ToE on G/3 MG Cone?
- Multiple NATO Nations have experienced significant mechanical failures of the G/3 MG pintle
- Those nations are involving industry to help create a standardized design for interoperability



Current NATO D/7 Manual Update

- **D/7 Update: NATO requirements for Weapons and Sensors post 2025 draft reviewed for comments.**
  - **Current draft includes future requirements for the:**
    - PDW: Handgun, Submachine gun, Assault rifle
    - Precision weapon: Medium range (<800m), Long range (>800m), Anti-materiel
    - Machine gun: Light (5.56), Medium (7.62), Heavy (12.7)
    - Grenade launcher: Shoulder fired, Automatic
    - Shotgun
    - **Weapon enablers**: Close combat sights, Telescopic sights, Range finders, Fire control systems, Image intensifiers (I^2), Thermal weapon sights, Fused night vision sights, Weapon flashlights, Laser aiming and illuminators, Observer target acquisition system

Current NATO D/7 Manual Update

- **D/7 Update: NATO requirements for Weapons and Sensors post 2025 draft reviewed for 1st comments.**
  - **Current draft includes future requirements for the:**
    - **Weapon accessories**: Bayonets, Bipods, Suppressors, Shot counters, Slings
    - **Training accessories**: Blank firing adapters, Laser Training systems, Paint marking systems, Short range training systems
    - **Future technological approach chapter:** to be added to propose revolutionary new approaches and capability.

W&S meetings (since the Fall 2013 meeting of LCGDSS):

Main Body:

- **Adelaide** (AUS): 17-19 Feb 2014 - 28 delegates from 13 countries
- **Prague:** Oct 2014
- **Spring 2015 (Canada)**

D/14 ToE

- **Adelaide** (AUS): 19 - 20 Feb 2014 - 26 delegates from 13 countries
- **Spain :** 24th to 26th June 2014
- **Prague:** Oct 2014
- **Spring 2015 Canada)**
- **3 others in 2015**

G3 ToE

- **Adelaide** (AUS): 19 Feb 2014 - 26 delegates from 13 countries
- **Olso:** May 2014
- **Prague:** Oct 2014
- **Spring 2015 Canada)**

W&S meetings (since the Fall 2013 meeting of LCGDSS (cont)):

Suppressor ToE

- **VTC** : 17 Dec 2013 - 18 delegates from 8 countries
- **Henderson** (USA): 13-15 Jan 2014 - 17 delegates from 8 countries also with 9 Industry Leaders
- **VTC** : 8 April 2014
- **Spain or Germany:** 24th to 26th June 2014
- **Naval Surface Warfare Centre, Crane, Indiana** (USA): Sept 2014
- **Prague:** Oct 2014
- **VTC** : Nov 2014
- **Norway (Tromso?)** : Jan 2015

National updates

- Our information exchange has shown that many nations have similar programs.
- Many nations are:
  - Facing budget cuts and delayed upgrades
  - Upgrading their Equipment (see Matrices)
  - Are experiencing the same reliability issues (More comments to follow)

Ongoing and Future Programs Matrix

	Rifle upgrade	CCO	NV	Handgun	GL FCS	Suppressor	LAM	GL	Magazine	RWS
AUS	x	x	x							
AUT	x	x					x	x		x
BEL	x	x	x	x		x	x	x		
CAN	x	x	x	x	x	x	x	x	x	
CZE	x			x					x	
DEU	x	x	x		x		x	x		x
DNK	x	x		x	x	x	x	x	x	x
ESP	x	x	x	x	x					
EST	x	x	x	x		x	x	x		
FRA	x	x	x	x				x	x	
GBR	x	x	x		x	x	x		x	
HUN	x	x		x						
ITA	x	x			x					
NLD	x	x	x	x		x			x	x
NOR	x	x	x	x	x	x	x		x	x
POL	x		x	x				x		
SWE	x	x	x		x	x	x		x	x
USA	x	x	x	x	x	x				x
∑	18	16	13	12	9	9	9	8	8	7

CCO = Close Combat Optics
GL FCS = Grenade Launcher Fire Control System
LAM = Laser Aiming Module

Updated Feb 20, 2014

JSSAP Investment into Common Capability

- Supporting the mission of NATO with manpower and SME
- Participating in multiple ToE and at multiple echelons
- Representing the Warfighter
- Ensuring our Warfighters have the Capabilities they need

Questions ?