



Military Application of Electro-Stun Devices

Presented by: Azamat Villar

Electrical Engineer

RDECOM- ARDEC at Picatinny, NJ





OUTLINE

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What is EMI?

- STUN - The charge combines with the electrical signals from the attacker's brain. This is like running an outside current into a phone line: The original signal is mixed in with random noise, making it very difficult to decipher any messages. When these lines of communication go down, the attacker has a very hard time telling his muscles to move, and he may become confused and unbalanced. He is partially paralyzed, temporarily.
- EMI - The current may be generated with a **pulse frequency** that mimics the body's own electrical signals. In this case, the current will tell the attacker's muscles to do a great deal of work in a short amount of time. But the signal doesn't direct the work toward any particular movement. The work doesn't do anything but deplete the attacker's energy reserves, leaving him too weak to move (ideally).



Why is the Army Looking at EMI?



- **Non-Lethal (NL) Capability Gap**

- Universal NL Target Effect
- Existing non-EMI devices are primarily blunt impact that can cause serious bodily harm beyond the intent of the user with the amount of force necessary to subdue highly motivated individuals.

- **Warfighter Payoff**

- Internment and Resettlement/Confinement Operations
- Law Enforcement/Peacekeeping Operations/Special Operations
- Checkpoint
- Scalable Effect
- Public Relations and associated benefits
- Reduced Target casualty



What are the Army's requirements for EMI?



- **Human Target Effects**
 - Non-lethality
 - Long-term Effects
- **Compliance Military conditions**
 - MIL-STD 810F (Salt fog, drop testing, Sand & dust etc...)
 - Environmental Electromagnetic Effects (E3)
 - Hazards of Electromagnetic Radiation on Ordnance (HERO).
 - Environmental Temperature AR70-38 (Hot, Cold, and Basic)
- **Legal reviews**
 - Compliance with national/international agreements
- **Human Factors**
 - Weight, size, ergonomics, etc...



What is the army doing with EMI?

- In 2003 and 2004, the US Army PM Close Combat Systems (PM-CCS) urgently releases M26 and X26E TASERS® to US Army commands. In 2005, PM-CCS expects to Urgently release 864 X26Es to US Army commands.
- The US Army approves the Operational Need Statement (ONS) for the Family of Electric Stun Devices (FESD) on 24 November 2003,
- On 30 November 2003, the US Army MP School generates a Draft Capabilities Document (CDD) for the FESD: (further details in next slide)
 - Launched Electro-Stun Weapon (LESW) with M16/M4 under-barrel application.
 - Small contact Stun device (SCSD)
 - Stun baton (SB)
 - Prisoner Worn Stun Device (PWSD)



What is the army doing with EMI? (cont'd)

- Via a 2004 Soldier Enhancement Program (SEP), the US Army PM Clothing and Individual Equipment (PM-CIE) initiates an effort to identify and Type Classify (TC) items to meet FESD CDD. As a result, the X26E is selected as the sole candidate for the FESD CDD LESW.



What is the Joint Services interest in EMI?



- In 2004 - 2005, the Joint Non-Lethal Weapons Directorate (JNLWD) funds and assigns the US Army as the lead for developing and executing a Joint Test and Evaluation plan (using PM-CIE's SEP program as a baseline) for the X26E that can be leveraged by the Joint community to TC the X26E.
- The HENLM Program which is a US Army led program currently funded by JNLWD provides an application of an EMI technology.



Family of Electro-Stun Devices



On 30 November 2004, the US Army Military Police School (USAMPS) generated a Capabilities Document (CDD) for the Family of Electro-Stun Devices (FESD):

- Launched Electro-Stun Weapon (LESW) with M16/M14 under-barrel mounting capability.
- Small contact Stun device (SCSD)
- Stun baton (SB)
- Prisoner Worn Stun Device (PWSD)





Hand Emplaced Non-Lethal Munition (HENLM)



The TAPM is a battery powered autonomous self-actuating device that utilizes the EMI capability for military area denial and Physical Security for Ammunition Supply Points (ASP), High Value Assets, compounds, and UGS.





Where does the Army want EMI to go?



- EMI Protocols & Standards
- Employment
 - Vehicle/confined Space occupants
 - Beyond Line of Sight
 - Area Denial
 - Crowd control - multiple targets
- Effectiveness/Capability
 - Optimized waveforms
 - Extended Ranges (100m +)
 - Tether-less / Directed Energy
 - Longer EMI duration
 - Remote Activation
 - Integrated with Lethal weapons



Questions?