New/Advanced NL Materials, Payloads, and Payload Delivery Systems

Non-Lethal Weapons Research and Technology Development

Industry Day

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http://jnlwp.defense.gov

Background

- The JNLWD is interested in investigating new non-lethal payloads and delivery systems that can improve the operational performance of non-lethal weapons as compared to existing technology.
- There exists a number of effective non-lethal stimuli but not always effective ways to deliver them on target at operationally relevant ranges.
- Some general desired improvements:
  - Improved accuracy
  - Reduced risk of significant injury
  - Reduced logistical burden (batteries, pneumatics, size, weight, etc.)
  - Reduced cost per engagement

Technical Objectives

- Identify and characterize new materials and non-lethal payloads that could extend the performance envelope of existing non-lethal weapon systems or provide novel non-lethal effects
- Develop and demonstrate generic non-lethal payload delivery platforms that address:
  - Standoff range (min and max)
  - Coverage
  - Accuracy
  - RSI
  - Reversibility
  - Scalability
  - Logistical burden
  - Probability of effect
  - Operator safety

Relevant Work

- Advanced Non-Lethal Projectile
  - NSWC-Dahlgren
  - Focus: Develop and characterize a new 12-gauge non-lethal blunt impact projectile utilizing Zorbium® visco-elastic foam.
- Carbon Nanotubes Acoustic Driver
  - Penn State University; University of Texas at Dallas
  - Focus: Develop and demonstrate a smaller, lighter, and lower cost high-power Carbon Nanotube (CNT) acoustic driver that offers numerous advantages over conventional coil drivers
- Non-Incendiary Flash Bang
  - Performers: Various
  - Focus: Developing and demonstrating a non-sparking flash bang grenade for use in combustible environments

Research & Development Tasks

General types of tasks required for research and development:

- Feasibility studies
- Prototype development, testing, and demonstration
- Materials research and development
- Modeling and simulation
- Systems engineering and technology integration

Capabilities

General capabilities and expertise that may be required :

- General engineers and physical scientists with expertise in ballistics, mechanics, thermodynamics, hydrodynamics, aerodynamics, materials, chemistry, and systems engineering
- Facilities and equipment to build and test prototype systems
- Computational scientists and engineers to build computer based models and run simulations

Questions?

Please submit questions by 29 June 2012:

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