The National Academies of
SCIENCES • ENGINEERING • MEDICINE

# ASSESSING THE PHYSICAL AND TECHNICAL SUITABILITY OF DOD TEST AND EVALUATION RANGES AND INFRASTRUCTURE

## 3rd Committee Meeting Agenda

**March 4, 2021**

**1100 – 1200 EST Hypersonics OT&E**

- Lieutenant General Neil Thurgood, Director for Hypersonics, Directed Energy, Space and Rapid Acquisition, Office of the Assistant Secretary of the Army
- Mr. Geoffrey Wilson, Hypersonic Test Lead PM Test & Evaluation/Science & Technology (T&E/S&T) Program, TRMC

**1200 – 1300 EST Panel on Data Interoperability and OT&E for Emerging Technologies**

- Lieutenant General Dennis Crall, Director for Command, Control, Communications, and Computers / Cyber and Chief Information Officer, Joint Staff J6
- Dr. Greg Zacharias, Chief Scientist for the Director of Operational Test and Evaluation, Office of the Secretary of Defense
- Dr. Victoria Coleman, Senior Advisor to the Director, CITRIS, University of California Berkeley and former director of Defense Advanced Research Projects Agency (DARPA)

**1300 – 1445 EST Break**

**1445 – 1530 EST Role of the Training Ranges in OT&E**

- Mr. Fred Engle, Acting Deputy Assistant Secretary of Defense for Force Education & Training/Director, Military Training, Office of the Assistant Secretary of Defense for Readiness

# ASSESSING THE PHYSICAL AND TECHNICAL SUITABILITY OF DOD TEST AND EVALUATION RANGES AND INFRASTRUCTURE

## Statement of Task

The National Academies of Sciences, Engineering, and Medicine will convene an ad hoc committee to assess the physical and technical suitability of the Department of Defense's (DoD) ranges, infrastructures, and tools used for test and evaluation (T&E) of military systems' operational effectiveness, suitability, survivability, and lethality across all domains (land, sea, air, space, and cyberspace).

Specifically, the committee will:

1) Assess the aggregate physical suitability of DoD's ranges to include their testing capacity, the condition of their infrastructure, security measures, and encroachment challenges.
2) Assess the technical suitability of ranges to include spectrum management, instrumentation, cyber and analytics tools, and their modeling and simulation capacity.
3) Evaluate the following attributes for each range:
    - Physical Attributes of Range: Do ranges allow for full exercise of tested systems in the manner they will be used to achieve their mission?
    - Electromagnetic Attributes of Range: Can the system under test, and emulated threats to the system, access and utilize spectrum as designed and needed?
    - Range Infrastructure: Can range instrumentation properly and fully assess system performance and record test data (as well as training data that could be applied to T&E requirements)? Can range tools adequately process and transmit test data and efficiently provide test results?
    - Test Infrastructure Security: How secure are ranges, infrastructure and test capabilities against physical and cyber intrusion that could lead to exploitation of weapon systems performance data by an adversary?
    - Encroachment Threats and Impacts: What are the existing and potential future encroachment threats and impacts (physical space, spectrum, alternative/competing DoD uses)?
4) For each area discussed above, the committee will recommend how the DoD can address and/or mitigate any existing or anticipated deficiencies, and test and evaluate future technologies anticipated to arrive between now and 2035. These technologies include, but are not limited to:
    - Directed energy, hypersonic systems, autonomous systems, artificial intelligence, space systems and threats, 6th generation aircraft, advanced acoustic and non-acoustic technologies for undersea warfare, and advanced active electronic warfare/cyber capabilities.