



THE UNDER SECRETARY OF DEFENSE

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RESEARCH
AND ENGINEERING

JUN 25 2018

MEMORANDUM FOR CHAIRMAN, DEFENSE SCIENCE BOARD

SUBJECT: Terms of Reference - Defense Science Board Task Force on Elements of a Resilient Space Architecture

In 2000, the Defense Science Board (DSB) concluded that space superiority is absolutely essential in achieving global awareness, information dominance on the battlefield, deterrence of potential conflict, and superior combat effectiveness of our forces. Since then we have made efforts to assess and enhance our space situational awareness, space protection, and space defense. At the same time, our potential adversaries have significantly advanced their awareness of our dependence on space for critical defense functions such as Intelligence, Surveillance, and Reconnaissance (ISR); sensing; communication; Position, Navigation, and Timing; and strategic indications and warning, and have developed and fielded capabilities to challenge these high-value operational enablers. In 2016, a DSB task force evaluated the resilience of the Nation's space capabilities and made a number of insightful recommendations on our space situation awareness capabilities, as well as organization options for integrating military and intelligence space enterprises. The development of specific architectural elements of a resilient space enterprise remains to be accomplished.

This study will identify and recommend a specific architecture and operational approaches to enhance the net resilience of our national security space enterprise, including those critical elements provided by our international partners and the commercial sector, in the context of current and projected threats. The study should consider all facets of space control including the balanced roles of deterrence measures, the requirements of space situational awareness, protection measures, and active defense concepts. Identification of critical enabling doctrine and policy concepts must also be considered. Questions to be addressed include:

- What strategy should the nation apply for space resilience in the face of adversary developments?
- What Service provision architecture should be developed for each element of the Nation's space enterprise? For example, what tactical, warfighting space ISR capability should be built?
- What specific number for each system component should be developed and deployed? In what timeframe should each phase of the improved space architecture be implemented?
- How should the Department of Defense (DoD) incorporate commercial/new space systems to address space warfighting capabilities, space logistics, infrastructure, and resilient backups?
- How can the Nation develop and test an effective warfighting "enterprise" – allowing offense practicing against defense in a real test range, with associated systems, Battle Management Command and Control, and data?

I will sponsor the study. Mr. Lou Von Thaer and Dr. Grant Stokes will serve as the co-Chairmen of this study. Col Mike Harvey will serve as the Executive Secretary. Lt Col Milo Hyde will serve as the DSB Secretariat representative.

The task force members are granted access to those DoD officials and data necessary for the appropriate conduct of their study. The Under Secretary of Defense for Research and Engineering will serve as the DoD decision-maker for the matter under consideration and will coordinate decision-making as appropriate with other stakeholders identified by the study's findings and recommendations. The nominal start date of the study period will be within 3 months of signing this Terms of Reference, and the study period will be between 9 to 12 months. The final report will be completed within three months from the end of the study period. Extensions for unforeseen circumstances will be handled accordingly.

The study will operate in accordance with the provisions of Public Law 92-463, "Federal Advisory Committee Act," and DoD Instruction 5105.04, "DoD Federal Advisory Committee Management Program." It is not anticipated that this study will need to go into any "particular matters" within the meaning of title 18, United States Code, section 208, nor will it cause any member to be placed in the position of action as a procurement official.



Michael D. Griffin