

DSB Newsletter



October 2004

Dr. William Schneider, Jr., Chairman

Mr. Vince Vitto, Vice Chairman

Mr. Brian Hughes, Executive Director

Chairman's Corner

As we drive to complete the remaining activities from the 2004 Summer Study on Transition To and From Hostilities, I express my thanks to all who participated. In terms of impact on decisions, this year's Summer Study is one of the most successful we've had. As many of you are aware, a draft directive from the Secretary of Defense to implement the Summer Study recommendations is currently in coordination. The Board's independent and expert advice is of great value to the Department.

In addition to the Summer Study, this continues to be a very active year for the Board, as is attested by the number of Task Forces and reports listed in this newsletter. The topics cover a wide variety of issues, and in some cases are joint efforts with organizations outside the Department.

We are still in the process of finalizing the topic(s) for next year's Summer Study. As the 2005 activities begin to take form, please mark your calendar with the meeting dates listed below.

Partmer

Dr. William Schneider, Jr.

DSB MEETING DATES FOR 2005

- 2-3 February 2005 Winter Quarterly
- 4-5 May 2005 Spring Quarterly

- 1-12 August 2005 Summer Study, Irvine CA
- 19-20 October 2005 Fall Quarterly

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Membership

The Board continues to actively solicit suggestions for highly qualified scientific and technical candidate members, with special emphasis on women and minority candidates. Prior Task Force participation offers an individual, OSD, and the Board an opportunity to determine a person's interest and suitability to Board activities and is a desirable prerequisite to membership on the Board.

Staff Changes

Effective November 1, Ms. Debra Rose will be the new DSB Executive Assistant. Mr. Mark Thaggard was filling in on a temporary basis over the last several months while the search to permanently fill the position was underway. Thanks Mark for your outstanding support during this period and welcome to Debra, who is joining the DSB Secretariat from OSD(P&R).

Task Force Status

- 2003 Summer Study: DoD Roles and Missions in Homeland Security (Co-Chairs: ADM Don Pilling, USN (Ret), and Mr. Don The study, co-sponsored by Latham) USD(AT&L), Assistant to the Secretary of and Defense (Nuclear Chemical Biological Defense Programs), Under Secretary of Defense (Policy), and Northern Command (NORTHCOM), is tasked to address the Department of Defense (DoD) roles and missions in homeland security. The Volume II Final Report has been released. (LTC Dolgoff)
- Operation Enduring Freedom Lessons Learned (Chair: Gen James McCarthy, USAF co-sponsored (Ret)) This study, USD(AT&L), VCJS and CENTCOM, is examining current activities of Operation Enduring Freedom to determine both nearand long-term technical and operational considerations that could be used to improve this operation and future campaigns initiated in the War Against Terrorism. Operation Iraqi Freedom main report has been completed. Two Phase IV supporting reports are complete. Two others are in draft. (LTC Dolgoff)
- Defense Against Clandestine Nuclear Attack (Co-Chairs: Dr. William Graham and Dr. Richard Wagner) This study, co-

- sponsored by USD(AT&L) and the Assistant to the Secretary of Defense (Nuclear and Chemical and Biological Defense Programs), will assess the adequacy of the US ability to detect, identify, respond, and prevent unconventional nuclear attacks by terrorist or sub-national entities. **The Final Report has been released.** (LTC Dolgoff)
- Smallpox Vaccine Down Select Process (Chairman: Dr. George Poste) This Task Force, co-sponsored by USD (AT&L) and the Assistant to the Secretary of Defense (Nuclear and Chemical and Biological Defense Programs), is tasked to perform an independent evaluation of the Department of Defense and Department of Health and Human Services smallpox vaccine candidates. The Final Report has been released. (CDR Waugh)
- Enabling Joint Force Capabilities (Co Chairs: Gen Larry Welch, USAF (Ret) and Dr. Bob Hermann) This study, co-sponsored by USD(AT&L) and the Chairman, Joint Chiefs of Staff, is chartered to review and understand the current state of assigned responsibilities and accountability for joint capabilities, identify unfilled needs and areas, and recommend further steps to strengthen the joint structure's ability to quickly integrate service-provided force capabilities. The Phase II Final report has been released. (LTC Dolgoff)
- Integrated Fire Support in the Battlespace (Co-Chairs: Mr. Vince Vitto and Mr. Bob Nesbit) This study is co-sponsored by Acting USD(AT&L); Commander, Joint Forces Command; Director, Defense Advanced Research Projects Agency; and the Director, Defense Systems. The task force is chartered to assess: the adequacy of current and proposed munitions; Intelligence Surveillance and Reconnaissance (ISR) techniques and mechanisms; the adequacy of battlefield command and control and integration techniques; the current impediments to a fully integrated Air, Land and Sea fire support; and the need for predictive engagement tools and derived intelligence products. The Final **Report is in draft.** (CDR Waugh)
- Quarantining Guidance for the Severe Acute Respiratory Syndrome (SARS) Epidemic (Chairman: Dr. Joshua Lederberg) This study, co-sponsored by Acting USD(AT&L) and the Assistant Secretary of

Defense (Health Affairs), is chartered to assess quarantining guidance for the Severe Acute Respiratory Syndrome (SARS) epidemic, to include existing doctrine and process by which quarantine policy is generated; methods, technologies and legal doctrine to allow safe transport of personnel through quarantined areas; identification and tracking of exposed individuals; and features of SARS guidance which may be applicable to future infectious disease outbreaks. **The Task Force is in progress.** (CDR Waugh)

- Patriot System Performance (Co-Chairs: Gen Mike Williams, USMC (Ret) and Mr. Bill Delaney) This study, co-sponsored by Acting USD(AT&L) and the Director, Defense Systems, is chartered to assess the recent performance of the Patriot System in OPERATION IRAQI FREEDOM from deployment through use across the threat spectrum, to include logistical, doctrine, training, personnel management, operational and material performance. The Task Force should also understand the causes of all fratricide incidents during OPERATION IRAQI FREEDOM. The Final Report is in draft. (CDR Waugh)
- Corrosion Control (Co-Chairs: Mr. Larry Lynn and RADM Steve Heilman, USN (Ret.)) This study is co-sponsored by Acting USD(AT&L) and the Deputy Under Secretary of Defense for Logistics and Material Readiness. The Task Force is chartered to assess on going corrosion control efforts across the DoD to include research, current and future technology, personnel training, maintenance processes, design manufacturing, and unique environments. From these findings the Task Force is to determine which areas, if adequate resources were applied, would provide the most significant advances in combat readiness. The Final Report is in staffing for release. (LtCol Robertson)
- Critical Homeland Infrastructure Protection (Co-chaired by Dr. Mim John and Dr. Ron Kerber) This study is co-sponsored by Acting USD(AT&L) and the Assistant Secretary of Defense for Homeland Defense. The Task Force is chartered to assess best practices for protecting US homeland installations and recommending various approaches to enhancing security and protection of these facilities. The Task Force

- is to assess shortfalls, identify promising technology and/or processes, recommend methods to reduce manpower requirements, identify issues associated with military and private responsibilities for critical facility protection. The Final Report is in draft. (LtCol Robertson)
- 2004 Summer Study: Transition To and From Hostilities (Co-Chairs: Dr. Craig Fields, and Mr. Phil Odeen) The study, sponsored by the Secretary of Defense, is tasked to address the transition to and from hostilities, and will be comprised of seven Panels. Volume I of the Report is in Security Review. The panel report on Strategic Communication has been released. (LTC Dolgoff)
- Identification Technologies of the Future (Chair: Dr. Delores Etter; Vice-Chair: Mr. Jeffery Harris) This study is co-sponsored by Acting USD(AT&L) and the Director, Defense Research and Engineering. The Task Force is chartered to assess current technologies and operational concepts to identify and track individuals and material. The investigation should encompass defense, intelligence, and commercial systems including promising technologies in the labs which are not yet deployed. The Final Report is in draft. (CDR Waugh)
- Nuclear Weapon Effects Test, Evaluation and Simulation (Chair: Dr. Mim John; Vice Chair: Dr. Jay Davis) This study is cosponsored by Acting USD(AT&L), Director, Operational Test and Evaluation and Assistant to the Secretary of Defense (Nuclear and Chemical and Biological Defense Programs). The Task Force is chartered to develop a comprehensive understanding of DoD needs and specific requirements for Nuclear Weapon Effects test, evaluation and simulation. The Final Report is in draft. (CDR Waugh)
- Future Strategic Strike Skills (Chair: Mr. Walter Morrow) This study is co-sponsored by Acting USD(AT&L) and Assistant to the Secretary of Defense (Nuclear and Chemical and Biological Defense Programs). The Task Force is chartered to assess current skills available, identify new skills and recommend a strategy for achieving and maintaining the future strategic strike skill set. This Task Force is in progress. (CDR Waugh)

- Identifying and Sustaining US Department of Defense/UK Ministry of Defence Defense Critical Technologies (US Co-Chairs: Admiral William Studeman and Dr. Anita Jones; UK Chair: Dr. Julia This study is a joint US Defense Science Board and UK Defence Scientific Advisory Council effort. The Study is chartered to develop a methodology to identify unique defense technologies as well as commercially developed technologies needing augmentation to fulfill defense niche areas and apply this methodology to develop a list of defense critical technologies. This study is in progress. (CDR Waugh)
- **B-52H Re-Engining** (Chair: Gen Mike Carns, USAF (Ret)) This Task Force was sponsored by USD(AT&L) to review and advise on key aspects of the policy and technology issues associated with re-engining the USAF B-52 fleet. The final report was distributed in March 2003. A revision of the report with updated cost data and analysis was begun in February 2004. **The Revised Report has been released.** (LtCol Robertson)
- Aerial Refueling Requirements (Chair: ADM Don Pilling, USN (Ret)) This study is sponsored by the Deputy Secretary of Defense. The Task Force is to assess current and future requirements with respect to both legacy systems and missions. The Task Force is also chartered to assess various options with respect to aerial refueling capability and any issues associated with the ability of the current fleet to continue to operate. The Final Report has been released. (LtCol Robertson)
- Contributions of Space Based Radar to Missile Defense (Co-Chairs: Gen Larry Welch, USAF (Ret) and Dr. Robert Hermann) This study is co-sponsored by Acting USD(AT&L) and the Missile Defense Agency. The Task Force will assess the potential value of Space Based Radar (SBR) capabilities to missile defense and the impact of adding a missile defense mission on the ability of SBR to conduct its primary mission. The Final Report has been released. (LtCol Robertson)
- Mobility (Chair: GEN William Tuttle, USA (Ret)) This study is co-sponsored by Acting USD(AT&L), and Director, Defense Systems. The Task Force is chartered to develop a

- comprehensive understanding of how the strengths and weaknesses of current military transport relate to the general structure of future mobility. **This Task Force is in progress.** (LTC Dolgoff)
- Missile Defense Phase IV (Information Policy) (Co-Chairs: Gen Larry Welch, USAF (Ret) and Dr. William Graham) This study, co-sponsored by Acting USD(AT&L) and the Missile Defense Agency, will assess the state of intelligence understanding of the capabilities, motivations, and attitudes of potential adversaries, and the impact of specific types of missile defense information on adversary capability to develop and have confidence in countermeasures. This Task Force is in progress. (LtCol Robertson)
- Future of the Global Positioning System (GPS) (Co-Chairs: Dr. James Schlesinger and Dr. Robert Hermann) This study, cosponsored by Acting USD(AT&L) and the Assistant Secretary of Defense (Networks and Information Integration), will assess the range of issues dealing with Galileo or other future radio navigation satellite systems. This will include capabilities and services within GPS to ensure its viability in commercial markets, the impact on frequency spectrum use, access and denial issues, and possible alternatives. The Task Force should also assess areas the DoD should seek partnering relationships outside the DoD. This Task Force is in progress. (LtCol Robertson)
- Munitions System Reliability (Chair: MGEN Ken Israel, USAF (Ret.)) This study is co-sponsored by Acting USD(AT&L) and the Assistant Secretary of Defense for Special Operations and Low Intensity Conflict. The Task Force will assess the failure rates of U.S. munitions, review ongoing efforts to reduce unexploded ordnance resulting from munitions failures, and identify measures to reduce the threat failed munitions pose to friendly forces and noncombatants. This Task Force is in progress. (CDR Waugh)
- High Performance Microchip Supply (Chair: Dr. Bill Howard) This study is cosponsored by Acting USD(AT&L), the Director, Defense Research and Engineering, the Deputy Under Secretary of Defense (Industrial Policy), and the Assistant Secretary of Defense (Networks and Information Integration). The Task Force will assess the ability of the DoD to obtain radiation

- hardened and limited quantities of special purpose microchips in a secure and timely manner to meet emerging needs. The Task Force will address alternatives to achieving a trusted supply such as the creation of trusted foundries, testing, alternative manufacturing techniques, and future technologies. The Final Report is in draft. (LTC Dolgoff)
- Employment of the National Ignition Facility (Chair: Gen Larry Welch, USAF (Ret.)) This study is co-sponsored by Acting USD(AT&L), the Assistant to the Secretary of (Nuclear and Chemical Defense and Biological Defense Programs) and the Administrator, National Nuclear Security Administration. The Task Force is to review the activation and early use plan for the National Ignition Facility (NIF) and address whether the programs are executable and balanced. The Task Force is also to assess if stakeholders are integrated into the plan and if the plan supports the goals of stockpile stewardship. The Final Report is in staffing for release. (LtCol Robertson)
- Red Lessons Learned (Chair: Mr. Rich Haver) This study is co-sponsored by Acting USD(AT&L), the Under Secretary of Defense (Intelligence), and the Director, Defense Research and Engineering. The Task Force will assess what information our adversaries learn from U.S. military engagements, and particularly, what might they have learned from OIF and OEF. The Task Force is to identify what channels adversaries learn of our capabilities, and if there is evidence an adversary is adjusting to U.S. capabilities. In addition to the operational phase, the Task Force is to assess the preparation and stabilization phase as well. This Task Force is in progress. (CDR Waugh)
- Manufacturing Technology **Program** (Chair: Dr. Jacques Gansler) This study is co-sponsored by Acting USD(AT&L), and the Deputy Under Secretary of Defense (Advanced Systems & Concepts). The Task Force is to review the DoD Manufacturing Technology Program. The Task Force is to specifically address the program's investment strategy, program balance, programmatic and funding linkage, the ability of the program to mature and transition from laboratory to production, and the acquisition impact. This Task Force is in progress. (LTC Dolgoff)

Force Protection in Urban and Unconventional Environments (Co-Chairs: Dr. Ted Gold and GEN Bill Hartzog, USA This study is co-sponsored by the Chairman of the Joint Chiefs of Staff, the Acting USD(AT&L) and the Director, Defense Research and Engineering. The Task Force is to review and evaluate force protection capabilities in urban unconventional environments and provide recommendations to effect change to the future Joint Force. The Task Force is to consider various issues to include relevant experiences of other countries and capabilities of civilian agencies. The Task Force is to review current efforts to negate the effects of improvised explosive devices, review the ongoing Joint Urban Operations initiatives, and evaluate efforts in Intelligence, Surveillance & Reconnaissance. This Task Force is in progress. (LTC Dolgoff)

DSB Reports published since May 2004:

- Aerial Refueling Requirements (May 2004)
- Smallpox Vaccine Down Select Process (May 2004)
- Contributions of Space Based Radar to Missile Defense (June 2004)
- DoD Roles and Missions in Homeland Security, Volume II-A (May 2004)
- DoD Roles and Missions in Homeland Security, Volume II-B (May 2004)
- B-52H Re-Engining (Revised and Updated) (June 2004)
- Preventing and Defending Against Clandestine Nuclear Attack (June 2004)
- Enabling Joint Force Capabilities Phase II (August 2004)
- Strategic Communication (September 2004)

Army Science Board (ASB)

Dr. James Tegnelia – Chairman TBD - Executive Secretary MAJ Richard Shaw – Executive Officer Mr. Wayne Joyner - Executive Assistant

Fall Annual Meeting

The Army Science Board held its Annual Fall Meeting on October 12 and 13 in Crystal City. Briefings included studies from Sister Boards-AFSAB, NRAC and the DSB. Also briefed were Army acquisition, improvised explosive devices, Future Combat System, 2005 ASB Study Topics under consideration, and ASB membership processes.

The ASB is restructuring its study types which will include task force studies and consultations. A consultation effort entitled **Constructive Simulation** is underway. The Terms of Reference for other 2005 efforts have not yet been finalized.

Proposed Topics include a Summer Study on Force Modularity & Technology and two Task Force Studies--Information Operations, IED Defense; and Support to Intelligence Activities. Consultations under consideration include support to the Army Materiel Command and the Program Analysis and Evaluation directorate.

The ASB will conduct a December Plenary which will serve to kick-off the 2005 studies. Senior Army leaders and subject matter experts will address the group on topics related to the new set of studies.

Plenary meetings are also planned for April and June. The 2005 ASB Summer Session is tentatively planned for July 11-22 at the Beckman Center in Irvine, California.

For more information on the ASB visit: https://webportal.saalt.army.mil/SARD-ASB/default.htm

Naval Research Advisory Committee (NRAC)

Mr. John M. "Jack" Bachkosky – Chair CAPT Dennis L. Ryan, III, USN (Ret.) -Program Director Three studies from last year are in the process of being approved for public release. Those studies were:

Science and Technology in FORCEnet; Technology Acquisition Reform, and Electromagnetic Gun Technology Assessment.

The NRAC Venture Capital Panel continues to gather information on the optimum ways in which the Navy can effectively incorporate information and process from the venture capital world.

The annual NRAC Summer Study was held the last week of July and the first week of August at the Naval Postgraduate School in Monterey, California. Briefs on two topics were prepared this year. Those topics were:

Sea Basing; and Modular Science and Technology for Modular Mission Packages.

Both of the briefs were presented to Mr. John J. Young, Jr, the Assitant Secretary of the Navy (Research, Development and Acquisition) on August 5, 2004. Final reports based upon the briefs are in preparation.

A third panel studying:

Science and Technology for Naval Warfare, 2015-2020, has begun its work. The panel has meet twice and is expected to continue meeting through the winter.

For more information on NRAC activities visit http://nrac.onr.navy.mil.

Air Force Scientific Advisory Board (SAB)

Dr. Daniel E. Hastings - Chair Ms. Heidi Shyu - Vice Chair Lt Gen John D.W. Corley - Military Director Col Charles D. Bowker - Executive Director

FY04 Summer Session Meeting. The Air Force Scientific Advisory Board held its annual Summer Session 21 June- 1 July 2004 in Irvine, CA. Study Chairs outbriefed their respective study findings to the Secretary of the Air Force on 1 July and to the

Air Force Chief of Staff on 28 July and 10 August 2004. The FY04 Study Topics, with respective Chairs and Co-Chairs, were: Networking to Enable Coalition Operations, Mr. Howard K. Shue and Dr. Peter R. Worch; Operationalizing Space Launch, Dr. Wanda M. Austin and Mr. John R. Albertine; Human-Systems Integration in AF Weapons Systems Development and Acquisition, Mr. Jeff Erikson and Dr. Greg L. Zacharias.

FY05 Fall General Board Meeting. The Air Force Scientific Advisory Board will hold its annual Fall General Board Meeting 12-13 October 2004 at the SAFTAS Conference Center in Rosslvn. VA. The agenda includes commemorating the board's 60th anniversary, as well as recognizing new and departing board members. The new board members are: Dr. John Wells Betz, Dr. Deborah A. Boehm-Davis, Dr. John C. Brock, Mr. E. R. "Ed" Glasgow, Dr. Roger T. Howe, Dr. Belinda B. King, Dr. Ilan M. Kroo, Dr. Alexander H. Levis, Mr. Stephen B. Plummer, Lt Gen (Ret), USAF, Mr. Thomas F. "Skip" Saunders, Dr. Grant H. Stokes, and Dr. David A. Whelan. Mrs. Natalie W. Crawford will also rejoin the board as the first SAB Senior Mentor. The departing board members are: Dr. Gary L. Denman, Dr. Thomas D. Garvey, Dr. Brian L. Hunt, Mr. George K. Muellner, Lt Gen (Ret), USAF, Mr. Eric B. Nelson, Maj Gen (Ret), USAF, and Mr. Theodore W. J. Wong.

FY05 Study Topics. The Air Force Scientific Advisory Board FY05 Study Topics are: Air Force Operations in Urban Environments, Domain Integration, Automatic Target Recognition, and System-of-Systems Engineering for Air Force Capability Development. The terms of reference are pending Secretary of the Air Force approval.

Publishing Status. The following study is in security review:

- Networking to Enable Coalition Operations, Volume 2 The following studies are in final editing:
- Operationalizing Space Launch
- Human Systems Integration

The following studies were published and distributed:

- Networking to Enable Coalition Operations, Volume 1
- Unmanned Aerial Vehicles in Perspective, Volume 1
- Machine-to-Machine ISR Integration, Volume 1

Technology Kickoff was held 16-17 September in Woods Hole, MA. The SAB is scheduled to review the Air Force Research Laboratory's Propulsion, Sensors, Directed Energy, and Space Vehicles Directorate, and its Special Programs division in October and November 2004.

Advisory Groups: The AFC2ISRC Advisory Group chaired by Dr. L. S. "Doc" Dougherty will meet at Langley AFB, VA in November 2004.

The DIA Advisory Board

Dr. Michael Wartell – Chairman Mr. Frank Kendall – Vice Chair Ms. Victoria Prescott – Program Manager & Executive Secretary

No new input this period.

Defense Science Board Active Task Forces

Green - Army Mil Assist

Light Blue – Air Force Mil Assist

Dark Blue - Navy Mil Assist

