

# Maintaining Advantage in a Multi-Polar Nuclear World: Declining Resources and Effectiveness of the New Triad Interim Report on Effectiveness of the New Triad

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## A. Background

The recently completed study for the Office of Net Assessment (ONA) entitled, *Maintaining Advantage in a Multi-Polar Nuclear World* identified ten key insights. Of those insights, Technology Strategies & Alliances (TS&A) has been tasked with further exploring the following two:

- **Declining U.S. Nuclear Expertise** – The experienced people that formed the backbone of the U.S. nuclear capability – to include doctrine, strategy, design, development, operations and maintenance – during the Cold War have largely retired, and those that have served post-Cold War are generally no longer employed in these roles.
- **Diagnosis of the Implementation of the New Triad** – The evolution of the geopolitical environment has outpaced the rate of implementation and deployment of new programs and other initiatives necessary to operationalize the New Triad; consequently, the nuclear capabilities available to the U.S. today are those of the Old Triad.

This interim report will address the findings to date derived from the Nuclear Infrastructure Forum on Wednesday, 29 November 2006, as well as from literature search, assessment and analysis and a series of interviews held with the primary stakeholders involved in the implementation of the New Triad. The interview process is ongoing. The results of these interviews will be folded into the Final Report.

TS&A has held interviews with a number of the stakeholders in the New Triad to include members of:

- The National Laboratories
- Senior Executives at the Defense Threat Reduction Agency
- J-8 of the Joint Staff
- DOE NNSA

These interviews are ongoing, with several interviews at OSD, the Joint Staff, DTRA and DOE/NNSA already completed. Interviews we are now working to arrange include members of the U.S. Strategic Command, the National Laboratories, and the Assistant Secretary of Defense for Nuclear and Chemical and Biological Defense Programs.

## B. Findings

The views, opinions, and/or findings contained in this report are those of the author(s) and should not be construed as an official Department of Defense position, policy, or decision.

The Forum discussions along with the questionnaire responses from the Forum participants provided the following:

The Nuclear Posture Review (NPR) is DoD's most current nuclear policy statement, yet the geopolitical environment has changed substantially since that document was drafted in 2001. The adequacy of implementation of the New Triad is in the eye of the beholder and to some degree is dependent upon U.S. policy as to how nuclear weapons will be employed.

As part of the Department of Energy National Nuclear Security Administration Complex 2030, NNSA has developed a planning scenario that sets out its vision for nuclear weapons and the nuclear weapons infrastructure by the year 2030. This scenario consists of four over-arching, long-term strategies:

- In partnership with the Department of Defense, transform the nuclear stockpile through development of RRWs, refurbishment of limited numbers of legacy designs, and accelerated dismantlement of the Cold War stockpile;
- Transform to a modernized, cost-effective nuclear weapons complex;
- Create a fully integrated and interdependent nuclear weapons complex; and,
- Build and maintain the science and technology base of nuclear weapons personnel essential for long-term national security

Of interest in the Complex 2030 scenario was the proposed approach to build and maintain the Science and Technology base:

- Offset the stress on science and technology budgets resulting from competition for resources from stockpile and infrastructure transformation by enhanced management practices and teaming with others.
- Prepare field-specific science and technology roadmaps by the end of 2007 outlining the work required to sustain the transformed stockpile, and complete an integrated science and technology roadmap in 2008.
- Recognize that Work for Others (WFO) plays an essential role in maintaining capabilities required for the NNSA mission. Encourage stronger WFO in key mission areas. Incorporate the implications of WFO for NNSA laboratory missions into the science and technology plans.
- Transition to a lower cost of operations for NNSA national laboratories. Develop a plan in 2007 to eliminate duplicative facilities and programs while maintaining key capabilities.
- Partner with the Office of Science in developing jointly funded, integrated programs that provide leading edge science and technology capabilities needed for national security and economic competitiveness. Pilot a joint project with the Office of Science in the FY2008 budget cycle.
- Establish performance measures in national laboratory performance evaluation plans to ensure major experimental facilities are efficiently and appropriately operated as shared, national user capabilities.
- Manage, assess, and prioritize science, technology, and simulation capabilities based both on:
  - Workforce management considerations and

- Requirements and “return on investment” for improving knowledge in the quantifications of margins and uncertainties. Apply a technology maturation program, in parallel with design, to ensure sufficient maturity for weapons applications, and personnel skills.

Another issue addressed in Complex 2030 was nuclear weapons funding:

- Nuclear weapons funding is a major contributor to the U.S. science and technology base. This has multiple benefits:
  - Stockpile stewardship can continue to be based on sound and leading edge technology,
  - Technologies will be developed that enhance U.S. competitiveness through additions to the Nation’s science-base, and
  - Nuclear education and training are supported for future generations of scientists and engineers.
- Assuring that the nuclear weapons complex continues to attract, recruit, and retain a workforce with the diverse set of skills needed to support the stockpile represents an important management challenge.
  - To ensure a steady supply of technically qualified workers, NNSA, in partnership with other government agencies, will continue to sponsor fellowships, internships, and summer programs in conjunction with leading colleges and universities in the United States.

Following the Forum, the participants were asked to respond to the following questions:

- 2006 – New Triad still appropriate strategy for maintaining U.S. advantage in view of growing and increasingly dangerous nuclear environment?
- To what extent are we actually implementing the NPR and the New Triad?
- What progress has been made in moving from the Cold War Triad to the New Triad? In your judgment, is the progress adequate? Balanced?
- Are we properly focused on all elements of influence called for in the New Triad – Assure, Deter, Dissuade, and Defeat?

The following summarize the responses received:

*Is the New Triad still appropriate strategy for maintaining U.S. advantage in view of growing and increasingly dangerous nuclear environment?*

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While many of these comments have been validated through the literature searches that TS&A has completed as well as in conversations we have had to date with others familiar with this issues, there are some who believe that the New Triad has been implemented. In particular, during interviews with members of the Defense Threat Reduction Agency, they reference ongoing initiatives at the U.S. Strategic Command that have moved the implementation of the New Triad forward, primarily through the study and advocacy of the conventional ICBM.

To date, TS&A has met with the following individuals:

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### **C. Next Steps**

TS&A will continue with the interviews of the major stakeholders. These include:

### **D. Major Insights**

Three lines of thinking and implementation of the New Triad are emerging:

1. Much of the New Triad as envisioned by the Nuclear Posture Review has not yet been planned or implemented;
2. The New Triad is alive and well and being implemented by STRATCOM; the Conventional ICBM program is the near-term exemplar; and
3. While slow in getting started, the New Triad is effective in the implementation of the Reliable Replacement Warhead (**RRW**) Program by the Department of Energy (DOE) National Nuclear Security Administration (NNSA)

A hypothesis that TS&A is now exploring is that while there is a lot of activity and debate regarding the implementation of specific elements of the New Triad, there has been little or no actionable progress to date. No organization or individual in the Government has clear responsibility and accountability, as well as the authority and resources to implement the New Triad.

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