

Deter, Assure, Strike

# Building Nuclear Deterrence for the 21st Century

The threats to our nation have changed dramatically since our nuclear arsenal was first designed and fielded more than three decades ago. MITRE recommends that before the United States spends \$1 trillion over the next 30 years to modernize its nuclear enterprise, it conduct a Nuclear Posture Review (NPR) to reassess and revise its policy, strategy, capabilities, and force posture. The NPR will help the administration re-focus the nation's nuclear enterprise to better respond to the world's current—and future—complex and turbulent environment.

## A Case for Action

Our nuclear TRIAD has served America well. It has provided the cornerstone of our extended strategic deterrence policy of deter, assure, and strike. We *deter* potential adversaries with our overwhelming capability, *assure* our allies and partners that our arsenal is there to protect them, and serve notice of our resolve to *strike* with these weapons should deterrence fail and we or our allies/partners are threatened.

However, the TRIAD was designed over 30 years ago. Since then, the threats to our nation have changed markedly. Our near-peer competitors such as China and Russia have improved their offensive capabilities and their strategy of how and when to use them. They have also applied advanced technology to improve their defensive capabilities against our strategic weapon systems, strategic communications, and command and control infrastructure. Their progress jeopardizes our ability to sustain a credible nuclear deterrent.

In addition, there has been a marked increase in the number of nuclear-capable nation-states such as North Korea and Pakistan. While they do not currently pose an existential threat to the United States, we must establish well-conceived nuclear

and non-nuclear, kinetic and non-kinetic response options to any potential aggression against us or our allies. Whereas in the past we could focus on just the one mission of survival against a first strike, we now need the tools (planning and execution applications, concepts of operation [CONOPS], and weapons) to execute across a continuum of options.

**“Issues posed by regional proliferation, the emerging possibility of limited use in regional conflicts, and ... concerns by many of our allies about our extended deterrence guarantee, all introduce complexities and challenges not seen since the early days of the Cold War.”**

—GENERAL JOHN E. HYTEN, USAF COMMANDER,  
UNITED STATES STRATEGIC COMMAND, SEPTEMBER 2016

## Understanding the Problem

Three decades ago, when the United States completed developing and fielding its nuclear weapon systems, our nuclear world was “simpler.”

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In the era of “mutually assured destruction,” we focused on surviving a massive, first-strike attack from the Soviet Union. Today, the new capabilities of our adversaries require that we have a much more flexible set of deterrence and response options. The ability to plan and execute this wide range of responses—from conventional to nuclear, from kinetic to non-kinetic, where conventional forces work in complete coordination with the nuclear forces—is our biggest challenge. The Services have recognized the need to modernize the nuclear enterprise and have embarked on an ambitious set of programs to field new weapon systems and the command, control, and communications infrastructure to enable them by 2030. Unfortunately, the current modernization plans underway are primarily based upon the same performance requirements and CONOPS that were used to address Cold War realities.

Consequently, if plans remain unchanged, the capability we will field in 2030 will be very similar to our legacy systems—just with new hardware. This will not address the realities of the threat environment in 2030.

### **Recommendations for the New Administration and Agency Leaders**

Since its inception in 1958, The MITRE Corporation has been supporting the nation’s strategic deterrent capability in the areas of CONOPS exploration; mission capability definition; requirements analysis; and individual systems design, development, procurement, and test. Based upon that experience and the environment summarized above, MITRE recommends the following:

- The Services should rapidly address gaps and shortfalls in our current strategic systems in order to be able to fight today’s fight.
- The administration should request a Nuclear Posture Review to establish new U.S. nuclear policy, strategies, capabilities, and force posture in conjunction with other national power capabilities. The NPR can benefit from the current Defense Science Board Summer Study on “Nuclear Deterrence in the 21st Century’s Multi-Polar, Multi-Threat Strategic Environment,” which will address many of the technical challenges involved and inform the NPR on the art of the possible. The NPR should assess all aspects of our nuclear deterrent, including:
  - All elements of the TRIAD, including the communications and command and control infrastructure
  - Potential new delivery capabilities, in addition to ballistic missile, bomber, and air-launched cruise missile delivery vehicles
  - Closer “interoperability” between conventional forces and nuclear forces to provide to the President a wealth of conventional/nuclear, kinetic/non-kinetic options (e.g., cyber, info ops) to respond to a range of conventional and nuclear attacks.
- The resultant perspective will allow the DoD and DOE to re-focus the nuclear enterprise strategy and modernization plan—and help them determine the necessary budgets so they can engage with Congress for funding.
- The Departments of Defense and Energy should drive innovation and investments in the critical capabilities required for a revised strategic deterrent policy.

*For further ideas about applying the guidance in this paper to your agency’s particular needs, contact [federaltransition@mitre.org](mailto:federaltransition@mitre.org).*