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Nuclear Hell on Wheels: Examining the Need for a Mobile ICBM

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And what the ICBM force gives to the president is the ability to respond promptly. I think that's still a valuable component of the range of alternatives that we could offer to the president. ... I think there's a big difference between a force that you can use promptly and one that you must use promptly. And I no longer see us in a scenario where we must use the ICBMs promptly.

—General Robert Kehler, former Commander,
U.S. Strategic Command¹

— Introduction —

The United States faces the troubling prospect of recapitalizing its entire nuclear triad over the course of the next fifteen years. Secretary of Defense Chuck Hagel has reiterated a commitment to maintaining the land-, sea-, and air-based legs of the nation's nuclear triad, and the Department of Defense and the Services are in the process of acquiring a new ballistic missile submarine and a new bomber.² As part of the acquisition process for a new Intercontinental Ballistic Missile (ICBM), the Air Force has asked for proposals that include alternate basing modes such as mobile ICBMs. Pundits have ridiculed the notion of a mobile ICBM, based largely on its projected cost and lack of utility against current threats, along with the unwillingness of the American people to tolerate mobile nuclear weapons on their roads.³ While these arguments may have merit, they fail to address the fundamental issue underlying the reemergence of the mobile ICBM in the context of the nation's future nuclear force structure. The 2010 Nuclear Posture Review was explicit about the need to consider alternatives to silo basing for ICBMs, directing the Department of Defense to “explore new modes of ICBM basing that could enhance survivability and

further reduce any incentives for prompt launch. Such an assessment will be part of the Department of Defense's study of possible replacements for the current ICBM force.”⁴

The RAND Corporation has studied the cost of various options for replacing the Minuteman III ICBM, and extensive writing has been done on the nation's budget woes and fiscal constraints.⁵ This paper will not delve into the affordability of a mobile ICBM, nor will it question the need for a land-based leg of the nuclear triad. Additionally, the debate concerning the efficacy of nuclear deterrence as a strategy is not considered, as there are reams of well-written and clearly articulated thought about most aspects of this topic. Though by no means a certainty, it is assumed that the United States will accept the security and safety risk necessary to field a mobile ICBM should the international security situation warrant such risk. In order to assess the validity of the Nuclear Posture Review's rationale, this paper dissects the risks and rewards of a mobile ICBM force in two attack scenarios, and argues that the Nuclear Posture Review does not account for the vulnerability of the president and of the nuclear command and control system in the face of a surprise attack.

The final section examines the conditions that must be present in order to favor the fielding of a U.S. mobile ICBM force. The first condition is a change in vulnerability of the SSBN force, causing its survivability to be questioned. The second condition is the emergence of a credible conventional threat to the U.S. silo-based ICBM force. The third condition is a shift in U.S. nuclear strategy from counterforce to countervalue, to include the adoption of a minimum credible deterrence posture. Finally, a collapse of restraints imposed by current arms control agreements could spur an arms race, changing the level of acceptable vulnerability for the land-based leg of the triad. Though certain conditions could favor the deployment of a U.S. mobile ICBM force at some point in the future, the current state of the geo-strategic landscape does not support such an acquisition.

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— Background —

Defining and empirically defending the deterrence effectiveness of a specific number of nuclear warheads deployed on a particular mix of weapon systems is an exercise in futility. It is more valuable to determine the kinds of capabilities that are likely to increase the credibility of a nuclear threat to a potential adversary. The 2010 Nuclear Posture Review explicitly defines the strengths, weaknesses, and advantages of each of the current legs of the nuclear triad. Nuclear-armed strategic submarines (SSBNs) are considered the most *survivable* nuclear weapon system in the U.S. arsenal. When on patrol at sea, they assure a retaliatory capability unmatched by the other two legs of the triad. Bombers are widely considered the most *flexible* of the three legs of the triad. In the context of nuclear conflict, bombers can be used to counter a wide range of threats, are recallable, and are useful for signaling intent due to their visibility.⁶ The silo-based ICBM force is credited with *responsiveness*. The current ICBM alert posture, high availability rate, and secure command and control ensure they are available for execution within a very short time frame.⁷ Each leg of the triad provides some degree of flexibility, survivability, and responsiveness, and when combined, the nuclear triad as a whole provides a complementary force structure capable of providing the president with a range of options across a spectrum of nuclear scenarios. This complementary force structure also provides a degree of hedge against unanticipated challenges, such as surprise technological advances in anti-submarine warfare, or undetected failures in one of the primary weapon systems. For example, the nuclear triad does not rely wholly on the submarine force for survivability, as a generated bomber force also provides a degree of survivability.

The most obvious rationale for fielding a mobile ICBM is to increase survivability and assure a retaliatory capability. Four countries currently possess nuclear-armed ICBMs: the United States, Russia, China, and India (Pakistan does not currently have a ballistic missile capability with intercontinental range of 5,500+ kms.)⁸ Of those four, Russia, China, and India have all chosen to field mobile ICBM systems. When a nation's nuclear arsenal is small, that nation cannot afford to absorb an attack that will destroy a significant portion of its deterrent force. Mobile ICBMs rely on technology that is mature and relatively affordable (truck and rail technology is neither complex nor expensive.) In contrast, procuring and perfecting nuclear-armed ballistic missiles launched from a submarine is expensive, technologically complex, and, once fielded, vulnerable to anti-submarine warfare efforts of more militarily advanced nations. In addition to the advantages in survivability that can generally be realized with a mobile ICBM, each of the three nations who have fielded them has its own unique reasons for doing so.

Russia has expressed concerns about the emergence of a U.S. prompt global strike weapon system that could hold portions of their nuclear arsenal at risk. Mobile ICBMs mitigate the risk that the United States could destroy a portion of the Russian silo-based ICBM force without expending any of its treaty-constrained nuclear forces. Prompt global strike is thus a destabilizing factor, driving the Russians to counter the capability by replacing silo-based ICBMs with less stabilizing mobile ICBMs. Mobile ICBMs give the Russians an affordable, surviva-

ble hedge against their fears of a technological or operational failure in their ballistic submarine force.⁹

In contrast to Russia's motivation for fielding a rail-mobile ICBM, China and India's fielding of mobile systems is grounded in their nuclear strategy. China and India have both openly declared a "no first use" policy, and the small size of their arsenals indicates they have likely adopted a minimum credible deterrent policy. Minimum credible deterrence is a countervalue strategy that eschews first use of nuclear weapons. Instead, this strategy requires an arsenal no larger than necessary to hold just enough of the adversary's population and economy at risk in a retaliatory strike to deter them. Minimum credible deterrence puts a premium on the survivability of the nuclear arsenal, and the responsiveness of a silo-based ICBM force holds little value in light of this approach. Both India and China are in the process of procuring a nascent submarine-launched ballistic missile capability, but in the meantime they have invested in a mobile ICBM force that poses fewer technological challenges and lower costs.¹⁰

— The Contributions of a Mobile ICBM System to the Existing Triad —

Ideally, any future nuclear weapon system acquired by the United States would maximize the attributes of flexibility, survivability, and responsiveness. The same Nuclear Posture Review that directs the study of alternate basing modes for ICBMs also emphasizes the essential attributes of the nuclear triad and reaffirms the continuing need for all three legs of the triad into the foreseeable future: "Retaining all three Triad legs will best maintain strategic stability at reasonable cost, while hedging against technical problems or vulnerabilities."¹¹ So what exactly would a mobile ICBM contribute to the existing capabilities of the triad? Typically, a road-mobile ICBM remains in garrison until tensions merit dispersal to the countryside. The survivability of a mobile ICBM with this concept of operations depends heavily on adequate intelligence and warning. In other words, given enough time to generate and disperse, a mobile ICBM is more survivable than a silo-based ICBM; however, in a normal day-to-day posture (presumably in an unhardened shelter on a base) it is less survivable than a silo-based ICBM.¹² This understanding is key to the logic behind the Nuclear Posture Review, as the intent is to remove the time constraint associated with a "use or lose" weapon system such as a silo-based ICBM. Mobile ICBMs are more flexible than silo-based ICBMs, as their generation is visible and can be used to signal resolve, and they can be repositioned to avoid overflight of neutral nations and dropping of expended downstages in populated areas. They could also be deployed near missile defense sites, thus improving survivability.¹³ On the other hand, mobile ICBMs are not as responsive as silo-based ICBMs, since their mobility complicates command and control and involves more time-consuming steps to prepare for launch.¹⁴ Of course, a mobile ICBM is not as survivable as an SSBN, as flexible as a bomber, or as responsive as a silo-based ICBM. The mobile ICBM is a compromise between these three attributes, but it does not offer any clear advantages over other systems currently in the triad.

The potential positive attributes of a mobile ICBM must be

considered in light of the impact of shifting away from a silo-based ICBM force. Due to current treaty limitations, the number of operationally deployed warheads is limited to a total of 1,550 on 700 delivery vehicles.¹⁵ If the deployment of a mobile ICBM is implemented in lieu of a silo-based ICBM force, the impact on the number of aimpoints presented to an adversary is dramatic:

As opposed to bombers and sea-based missiles, which are bundled onto relatively few aimpoints and may be vulnerable to attack, the size, protectedness, and dispersion of ICBM forces makes them virtually impossible to destroy short of an all-out nuclear attack. In this way, ICBMs are “warhead sinks,” theoretically less vulnerable and therefore a stronger deterrent to attack by adversaries. Because an ICBM force can only be crippled through a large and unmistakable nuclear attack, ICBMs provide greater clarity about when a country is under attack and who the attacker is.¹⁶

The elimination of the silo-based ICBM force greatly simplifies enemy targeting, reducing aimpoints from 425 (assuming 420 ICBMs) to 5 (3 bomber bases and 2 SSBN bases) to effectively nullify the U.S. nuclear arsenal in a surprise attack.¹⁷ The quandary posed to adversaries by the silo-based ICBM is best understood in terms of “price to attack.” If an adversary chooses to attack the United States, they must expend 2.1 warheads for every Minuteman III silo to ensure its destruction. Russia would have to expend 882 of its 1,550 operationally deployed warheads to destroy just 420 single-warhead silo-based U.S. ICBMs.¹⁸ The price to attack thus discourages a first strike and increases stability. The price to attack a garrison-based (non-dispersed) mobile ICBM is 0.6 warheads expended for every warhead destroyed.¹⁹ In a crisis, an adversary may be incentivized to attack early and from a platform with less warning (such as an SSBN) in order to destroy the mobile ICBMs before they can be dispersed. Thus the mobile ICBM does not offer the stabilizing effect of a single-warhead, silo-based force of 420 Minuteman IIIs. This impact on stability must be carefully weighed when considering future force structure.

— The Impact of Mobile ICBMs on Presidential Decision-Making —

The Nuclear Posture Review raises the concern that silo-based ICBMs constrain presidential decision-making timelines in such a way as to increase the likelihood of miscalculation or mistake.²⁰ Upon initial warning of an attack on the United States, the president must make the decision to use the silo-based ICBMs within a very short time frame in order to launch them before they are destroyed on the ground by the adversary’s incoming attack. According to this line of thinking, the lack of survivability of silo-based ICBMs forces the president into the untenable position of having to either accept destruction of the ICBM force or launch the ICBMs in a retaliatory attack with imperfect information. The posited risk in this situation is that the president will launch a retaliatory attack based on false warning indications, or that a complete loss of warning capability may precipitate an attack. There are an infinite number of

possible scenarios to test this notion, but two such scenarios will be sufficient to illustrate and examine the risks.

Scenario 1: Increased Tensions Lead to Possible Nuclear Exchange

In this scenario, tensions between the United States and Russia have built up over time, leading to a situation where a nuclear exchange becomes a serious possibility. Intelligence sources confirm the generation of Russian nuclear forces, and all signs point to an imminent nuclear attack. In response, the United States has generated its nuclear forces to their highest state of readiness, dispersing bombers to increase survivability, and ensuring the entire SSBN force is at sea and ready to respond to presidential direction. The United States has taken action to ensure the survivability of the president, and has maximized survivable nuclear command and control capability, as shown in the “Alert weapons (generated)” column in Table 1 below.

Table 1: Nuclear Force Structure Weapons Load Under New START

System	Delivery vehicles	Total warheads	Alert weapons (day-to-day)	Alert weapons (generated)
SSBN	240	1,070	713	1,070
ICBM	420	420	420	420
Bombers	60	60	0	60
Total	720	1,550	1,133	1,550

Adapted from Arms Control Association, “U.S. Strategic Nuclear Forces Under New START,” *Arms Control Today*, July 2013. *Note:* New START counts each bomber as one warhead, though bombers are capable of carrying more.

While in this posture, the president receives notification from the U.S. early warning system that an attack on the United States has taken place, and nuclear detonation in the continental United States will occur within minutes. What are the president’s choices, and what are the consequences of those choices?

1. *The president chooses to launch a retaliatory strike immediately, fearing that the destruction of less than one-third of the U.S. nuclear force is imminent.* **Risk:** Faulty warning indications caused the president to initiate a nuclear strike when it was not warranted. **Reward:** The president is able to launch the entire U.S. nuclear arsenal rather than only two-thirds of it, thus increasing the damage sustained by the adversary.

2. *The president does not launch an immediate retaliatory strike, choosing instead to absorb a possible impact, allowing time to ensure the warning indications were accurate and the nation is actually under attack.* **Risk:** The president loses the U.S. ICBM force (at the favorable exchange rate of 882 adversary weapons for 420 U.S. weapons).²¹ **Reward:** The president eliminates the possibility that the warning indications were faulty and does not risk initiating a nuclear exchange.

Conclusion: Given the costs and benefits of the two courses of action available, the president can afford to absorb the attack and make a deliberate decision to retaliate against the adversary without the pressure suggested by the Nuclear Posture Review and other sources. If ICBMs are a “use or lose” weapon, then losing them is an acceptable choice as long as U.S. nuclear forces are generated and survivability of the other two legs of the triad is maximized, in which case adequate retaliatory forces will be available. But what if U.S. forces have not been generated and their survivability is in question?

Scenario 2: Unprovoked Nuclear Attack Without Warning

In this scenario, the United States is caught completely by surprise, with no intelligence or other warning that an attack is imminent. U.S. nuclear forces are in a normal posture; bombers are not dispersed, and one-third of the SSBN force is in port and unprotected.²² The silo-based ICBM force is at its normal state of readiness, prepared to promptly respond to presidential direction. The president is not in a survivable location, and the United States has not implemented its plans to ensure that command and control of nuclear forces can be maintained in a nuclear environment. While in this posture, the president receives notification from the U.S. early warning system that an attack on the United States has been initiated, and nuclear detonation in the continental United States will occur within minutes. What are the president’s choices, and what are the consequences of those choices?

1. *The president chooses to launch a retaliatory strike immediately, fearing that the destruction of half of the U.S. nuclear force is imminent.* **Risk:** Faulty warning indications caused the president to initiate a nuclear strike when it was not warranted. **Reward:** The president is able to launch 73% of the U.S. nuclear arsenal on patrol (8 SSBNs with 713 warheads), plus 420 ICBMs (420 warheads), instead of less than 50% of it (8 SSBNs on patrol), thus increasing the damage sustained by the adversary.

2. *The president chooses not to launch an immediate retaliatory strike, choosing instead to absorb a possible impact, thus allowing time to ensure the warning indications were accurate and the nation is actually under attack.* **Risk:** the president loses the U.S. ICBM force (at the favorable exchange rate of 882 adversary weapons for 420 U.S. weapons), the SSBNs in port (4 of the 12 in the arsenal), and the entire nuclear bomber force.²³ Additionally, neither the president nor the presidential successors survive the attack. Finally, the nuclear command and control system is largely destroyed, having been caught in an unsurvivable state. **Reward:** The president eliminates the possibility that the warning indications were faulty and does not risk initiating a nuclear exchange.

Conclusion: In a “bolt out of the blue” scenario, the president has no good options. The choices are either to risk launching an attack based on faulty warning indications, or to risk personal survival, retaliatory capability, and the destruction of half of the nuclear arsenal in order to allow time to ensure the warning indications are accurate. The “use or lose” nature of the silo-based ICBM force certainly contributes to this dilemma, but it is not the only source of quandary. In the day-to-day nu-

clear posture of the United States, a total of eight SSBNs are on patrol at any one time.²⁴ They constitute the entirety of the U.S. survivable retaliatory capability, loaded with 713 warheads on 160 missiles. The remaining nuclear U.S. forces are vulnerable to a first strike, including 60 bombers, the remaining 4 SSBNs (a total of 357 warheads) and 420 ICBMs (420 warheads).²⁵ In fact, the president also becomes a “use or lose” component of the command and control system, and the impending decapitation of the U.S. government imposes its own sense of urgency on the decision-making process. The in-port SSBNs and the bomber force impose no pressure on presidential decision-making because there is no option to use them; in this scenario, they are not “use or lose” weapons, but rather merely “lose” weapons. In a “bolt out of the blue” situation, the silo-based ICBM force simply gives the president another retaliatory option in addition to SSBNs on patrol.

— Nuclear Posture Review Rationale: An Assessment —

The Nuclear Posture Review asks the Department of Defense to consider alternate basing modes for ICBMs in order to reduce the pressure on the president to launch on warning and thus reduce the likelihood of a miscalculation.²⁶ In light of the two scenarios examined above, what benefits does the fielding of a mobile ICBM bring to presidential decision-making timelines? In the first scenario, it is clear that the rational choice is to absorb the attack. A mobile ICBM force would likely be dispersed and relatively survivable in such a scenario, and there is no reason to launch on warning. A dispersed mobile ICBM force does not change the decision the president will make to absorb the attack, but merely the number of weapons available for a retaliatory response (presumably all 1,550 warheads versus 1,130). In the second scenario, the mobile ICBMs are unlikely to be dispersed, and will be caught in garrison. The lack of survivability of mobile ICBMs in garrison poses the same “use or lose” quandary these weapons were acquired to avoid—they offer no benefit whatsoever, as shown in Table 2 below.

Table 2: New START Nuclear Force Structure with Garrison-Based Mobile ICBM

System	Delivery vehicles	Total warheads	Alert weapons (day-to-day)	Alert weapons (generated)
SSBN	240	1,070	713	1,070
ICBM	420	420	0	420
Bombers	60	60	0	60
Total	720	1,550	713	1,550

Adapted from Arms Control Association, “U.S. Strategic Nuclear Forces Under New START,” *Arms Control Today*, July 2013. *Note:* New START counts each bomber as one warhead, though bombers are capable of carrying more.

Only mobile ICBMs that are dispersed *at all times* offer increased survivability in this scenario.²⁷ Assuming the United States fields a mobile ICBM that is dispersed and moving continuously, the president can choose to absorb a “bolt out of the blue” attack, taking comfort in the fact that there are now 1,133 survivable weapons available instead of only the 713 warheads from the SSBNs on patrol, as shown in Table 3 below.

Table 3: New START Nuclear Force Structure with Constantly Dispersed Mobile ICBM

System	Delivery vehicles	Total warheads	Alert weapons (day-to-day)	Alert weapons (generated)
SSBN	240	1,070	713	1,070
ICBM	420	420	420	420
Bombers	60	60	0	60
Total	720	1,550	1,133	1,550

Adapted from Arms Control Association, “U.S. Strategic Nuclear Forces Under New START,” *Arms Control Today*, July 2013. *Note:* New START counts each bomber as one warhead, though bombers are capable of carrying more.

However, the mobile ICBM force does not protect the president and vice president from the decapitating attack on leadership that will inevitably accompany a surprise attack by a peer, and does nothing to ensure the ability of the nation’s leaders to direct a retaliatory attack. In other words, the president remains a “use or lose” component constraining decision-making timelines, despite the increased survivability of a mobile ICBM versus a silo-based ICBM.²⁸

A constantly dispersed mobile ICBM force thus provides the most pronounced benefit to decision-making timelines in a surprise attack scenario. But should the United States make nuclear force structure decisions for the future based on this benefit? The 2010 Nuclear Posture Review offers some insight: “First and foremost, the Soviet Union and the Warsaw Pact are gone. Russia is not an enemy, and is increasingly a partner in confronting proliferation and other emerging threats.”²⁹ The 2010 Nuclear Posture Review goes on to say that “while we must maintain stable deterrence with major nuclear powers, the likelihood of major nuclear war has declined significantly; thus far fewer nuclear weapons are needed to meet our traditional deterrence and reassurance goals.”³⁰ If the only country with a nuclear arsenal capable of launching a first strike against the United States without warning is no longer an enemy, and the likelihood of major nuclear war has in fact declined significantly, then the rationale for acquiring a mobile ICBM that is most effective in a surprise, all-out nuclear attack from Russia correspondingly diminishes. The SSBN force is heralded as the indispensable leg of the nuclear triad due to its survivability, but the only situation where survivability is in question is dismissed as “much diminished.”³¹ Admittedly, recent developments in the Ukraine have since tarnished the relationship between Russia and the West, but sacrificing the stability offered by silo-

based ICBMs in order to acquire a less stabilizing system that provides unneeded additional retaliatory capability is ill advised.

— Conditions Favoring a Mobile ICBM Force —

With an understanding of the role mobile ICBMs play in the nuclear force structures of other nations, it is essential to define the circumstances that would favor the fielding of a U.S. mobile ICBM system. In the discussion below, it is assumed that the United States maintains its commitment to fielding three legs of the current nuclear triad.

1. *If the survivability of the U.S. SSBN fleet is called into question, a mobile ICBM system could be a viable, survivable alternative.* As previously discussed, survivability is a quality vital to the effectiveness of the U.S. nuclear triad. The United States currently relies on the survivability of the SSBN leg of the triad at sea for its entire retaliatory capability on a day-to-day basis. The 2010 Nuclear Posture Review raises no concerns about emerging threats to SSBN survivability, stating that “today, there appears to be no viable near or mid-term threats to the survivability of U.S. SSBNs,” while admitting that such threats could emerge over the long term.³² Presumably, an emerging long-term threat would afford the United States ample opportunity to develop and acquire survivable nuclear force structure alternatives such as a mobile ICBM.

2. *If U.S. silo-based ICBMs are threatened by an adversary’s conventional capability, a mobile ICBM could be a reasonable addition to nuclear force structure.* U.S. conventional superiority and emerging capability is a motivation for other nations to field mobile ICBMs. Their rationale is clear: the fact that the United States can destroy an adversary’s nuclear forces without crossing the nuclear threshold or expending any of its own nuclear weapons is a frightening prospect. To counter this threat, a mobile ICBM force is preferable to a static, vulnerable silo-based force. The complicated nature of hunting down and destroying mobile missiles was clearly demonstrated during the first Gulf War, when the United States devoted hundreds of aircraft sorties to finding Iraqi SCUD missile launchers in unchallenging terrain, without any discernible success.³³ It remains true that mobile missile launchers are excruciatingly difficult to find, fix, target, and destroy, and countries with mobile ICBM forces use this fact to their advantage. Russia has gone so far as to admit that they are considering fielding a rail-mobile ICBM system based on the threat to Russian silo-based ICBMs posed by the U.S. Prompt Global Strike conventionally armed ballistic missile.³⁴ The U.S. silo-based ICBM force faces no comparable conventional threat in the foreseeable future; however, a change to this threat assessment could justify a shift from silo-based to mobile ICBMs.

3. *If the United States adopts a countervalue or minimum credible deterrence nuclear strategy, the survivability of a mobile ICBM force would better meet the need for a secure second strike than would a silo-based force.* Silo-based ICBMs are a first strike or immediate retaliatory strike weapon, best suited to striking an adversary’s military forces before they can be em-

ployed against the United States. As previously discussed, a strategy of minimum credible deterrence adopts a “no first use” policy and seeks to maintain a secure retaliatory capability, largely by targeting population centers. As the United States has not employed a countervalue strategy (targeting cities rather than military forces) since the Kennedy Administration, it seems unlikely that U.S. adoption of a minimum credible deterrence approach is imminent.³⁵ Further deep cuts in the U.S. arsenal (whether unilateral or a result of arms control agreements) could force the United States to consider such a strategy. The fewer operationally deployed warheads available to nuclear war planners, the less likely it is that they will be able to hold an adversary’s nuclear forces at risk. If the United States has no hope of destroying these enemy nuclear forces with a hypothetically smaller arsenal, an alternative deterrence strategy emphasizing retaliation against population centers must be considered. Should the intent of the Global Zero Initiative be incrementally realized over a long period of time, the fielding of a U.S. mobile ICBM force (with its assured second strike capability) could become a reality.³⁶

4. *If the international arms control regime fails and an arms race reignites, the fielding of a mobile ICBM force could be to the advantage of the United States.* An unbridled arms race would negate the stability offered by the “price to attack” silo-based ICBMs, and a mobile ICBM force would offer additional survivability for the land-based leg of the nuclear triad. With an unconstrained arsenal, the vulnerability of the silo-based ICBM forces could provide incentive for a first strike from a peer nuclear power, and the second strike capability of the SSBN force and a mobile ICBM force could prove to be a decisive deterrent. It is unlikely that the entire arms control relationship built up over the years with Russia will collapse in the foreseeable future, but the possibility cannot be dismissed out of hand. The United States recently accused Russia of violating the terms of the Intermediate-Range Nuclear Forces (INF) Treaty by testing a ground-launched cruise missile. Among the range of responses to this violation being considered by the United States is the fielding of a ground-launched cruise missile in Europe. Brian McKeon, Deputy Undersecretary of Defense for Policy, stated that the options under consideration ranged from “reactive defense, to counterforce, to counter value defense measures.”³⁷ These statements are likely mere posturing, but they do indicate that the long-term sustainment of arms control agreements requires two partners, each willing to live up to their end of the bargain. U.S. withdrawal from the Anti-Ballistic Missile Treaty in 2002 is a prime example of a nation terminating a treaty when it no longer serves its national interest.³⁸ If Russia were to make the same calculation with regard to its current nuclear arms control agreements, and unconstrained weapons buildups became the norm, a U.S. mobile ICBM force could offer a survivable system to serve as a hedge against failure of the SSBN force.

Current international threat conditions do not support the fielding of a U.S. mobile ICBM force. The nuclear triad as it exists today provides the appropriate mix of survivability, flexibility, and responsiveness necessary to support a counterforce strategy and to present a full range of options to the president in the most likely postulated scenarios. The pressure exerted by the “use or lose” nature of silo-based ICBMs in a massive surprise nuclear attack is not unique to that leg of the triad; the president and the nuclear command and control system are also unlikely to survive such an attack. The 2010 Nuclear Posture Review thus overestimates the impact of silo-based ICBMs on presidential decision-making in a time-constrained environment by giving too much credence to the likelihood of a surprise attack on a massive scale, and by failing to appreciate the vulnerability of other elements of the nation’s nuclear command and control system. The risk of losing silo-based ICBMs in such a scenario is more than offset by the stability offered by the “price to attack” of such weapons, and by the role they play in altering an adversary’s decision-making process prior to initiating an attack.

Certain factors, though not currently compelling, could motivate the United States to more carefully consider the acquisition of a mobile ICBM force. If the survivability of SSBNs were called into question due to a technological breakthrough in anti-submarine warfare, mobile ICBMs would offer an important redundant hedge for an assured second strike. If the U.S. silo-based ICBM force were threatened by an unforeseen conventional threat (such as an advanced stealth bomber or a highly accurate conventional ballistic missile with sophisticated countermeasures), a mobile ICBM would reduce the risk that a non-nuclear attack could be used to degrade the nuclear deterrent. If the United States adopts a countervalue strategy such as minimum credible deterrence, the survivability of a mobile ICBM would better support the strategy’s reliance on retaliation by a survivable weapon system. Finally, if an arms race reignites between the United States and Russia, the stability offered by U.S. silo-based forces may be outweighed by the incentive to attack these vulnerable weapons with a first strike. In this situation, a constantly dispersed mobile ICBM force offers greater survivability and increases stability.

A note of caution must accompany these caveats, preconditions, and assumptions. Mobile ICBMs present their own technological, doctrinal, and operational challenges, and the United States has never fielded a true mobile ICBM system. Such a system cannot be designed, tested, acquired, and implemented overnight, and the United States would be wise to regularly reassess its need for such a system. The conditions that would shift the calculus in favor of a mobile ICBM can change quickly, but the process of developing a mobile force takes much more time. The strategic environment rarely favors the unprepared.

— NOTES —

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