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ASSESSING THE EMERGING US MILITARY BASING

POSTURE IN THE MIDEAST

by

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Biography

Colonel Robert E. Webb is a student in the Air War College Class of 2010. In his previous assignment, he served as Deputy Commander of the 20th Operations Group, Shaw Air Force Base, South Carolina. After graduating from the United States Naval Academy in 1988 with a degree in Aerospace Engineering, Colonel Webb was commissioned an Ensign and served as a naval aviator. An instructor pilot in both the A-4 and F/A-18, he made combat deployments on USS America and USS Theodore Roosevelt. Following a pilot exchange tour, he transferred to the Air Force in 2002 and has flown the F-16 in several operational and training assignments. He is a command pilot with 4,890 flight hours, 560 carrier landings and over 750 combat hours. Additionally, he served as Commander of the 332d Expeditionary Operations Support Squadron, Balad Air Base, Iraq from August 2006-August 2007.

Introduction

Throughout much of the 20th Century, American presence in the Mideast was limited to a small naval presence in the Arabian Gulf. Following Operation Desert Storm, however, the United States initiated an interventionist basing posture in the Mideast which has continued to this day. This posture has fostered a strategy of containment, protection and deterrence against regional adversaries and promoted stability among regional allies. Nonetheless, the strategic limitations of the policy became apparent when Al Qaeda used US Mideast presence as a political justification to conduct terror attacks against the West. The resulting prolonged wars have encouraged the US to build an expansive array of more than 20 regional air bases, which are unlikely to be economically or politically sustainable in the long term. Moreover, while the current security situation mandates a robust basing posture, it remains to be seen what degree of US presence will remain in the region or precisely what the US will choose as its enduring regional bases. The 2006 Quadrennial Defense Review hinted at future basing priorities when it stated, "The United States will continue to adapt its global posture to promote constructive bilateral relations, mitigate anti-access threats and off set potential political coercion designed to limit US access to any region."[1] Regardless of the future force bed down, it is clear that the evolving basing posture in the Mideast will consist of a diverse portfolio of bases in a number of countries with the strategic objective of providing the most effective blend of adaptability, presence and capability.

Countervailing the US strategy, Iran's continued focus on developing anti-access capabilities and impending emergence as a nuclear-armed power potentially will hinder the United States' ability to project power in the region and raises risk substantially going forward. The Commission on Review of the Overseas Military Facility Structure reinforced this point,

arguing, "Our nation has no intention of leaving any of our forces or their support bases at risk."[2] In the evolving threat environment, this assertion may prove naïve and strategically binding. While conventional Iranian military forces have atrophied in many ways since the Iran-Iraq war, Teheran has sought to field an array of systems that will compel commanders to reassess their acceptable level of risk to forces. Military vulnerabilities notwithstanding, Iran can be expected to challenge the political willingness of partner nations to host US forces. As an example, consider a 2007 RAND report detailing Iranian President Ahmadinejad's visit to the United Arab Emirates during which he called repeatedly for American troops to "pack their bags" and leave US bases in the Gulf.[3]

Herein lies the dilemma: can an effective US military basing posture, which provides such a potent cause célèbre for certain Islamist audiences, now be nuanced as "presence without permanence" and still serve as an effective foundation for protection of US interests in the region? Furthermore, will the United States political and military leadership accept and be able to mitigate adequately the risks inherent to operating inside the threat rings of Iranian nuclear ballistic missiles? In order to pursue an effective strategy of containment and conventional deterrence against Iran, the answer to both questions must be "yes." The difficult problem is determining how the US can nuance its basing strategy while mitigating risks to bases.

This paper examines this challenge from an airpower perspective and limits its scope primarily to the Arabian Gulf region. It begins by investigating the Iranian strategic threat to US airpower and discusses various courses of action available to planners, while examining the political and military threats to such plans. Next, it assesses the level of risk and considers the effectiveness of various mitigation techniques. Finally, it provides recommendations that US

planners should consider pursuing in maintaining the foundation for countering the Iranian threat and enhancing regional stability.

Background

Interpretations of Iran's Strategy

In *Dangerous but Not Omnipotent,* Frederick Wherey, Dave Thaler, Nora Bensahel, and Kim Cragin argue Iran's defensive strategy is comprised of four pillars: safeguarding regime sovereignty, deterring aggression, countering invasion through peripheral strategy of strategic depth and intimidating, dissuading and coercing other nations.[4] Within the context of basing posture, the latter three elements are particularly germane. Iran seeks to deter outside aggression and intimidate other nations through an information campaign that projects a belligerent attitude and displays their military preparedness to the world. Iran aggressively prosecutes any perceived violation of its territorial boundaries in order to derive the maximum political gain.[5] Likewise, Iran clearly strives to showcase their military capabilities. Not only do missile tests or air defense exercises seem timed to influence diplomatic events, media coverage of such events is carefully manipulated as well.[6] Such shaping activities seek to influence Arab public opinion and dissuade governments from cooperating with the US.

Iran's concept of strategic depth has implications for regional basing. Iran would seek to engage their enemies both through violent and popular support means in a form of "forward defense" during a military campaign.[7] The Second Lebanese-Israeli conflict demonstrated the ability of proxy violent extremist organizations to project power against advanced militaries, a connection made by Wherey and company, when they observed, "[Iranian Revolutionary Guard Corps] commanders routinely cite Hezbollah's campaign against Israel in 2006 as Iran's laboratory for homeland defense."[8] Such efforts would challenge US force protection

capabilities and traditional reliance on "secure" rear areas for logistical assembly. A significant challenge inherent in Iran's use of proxy actors has been the ambiguous nature of determining responsibility for their actions.[9] The difficult strategic dilemma for the US is to find ways to isolate proxy agents from their Iranian support and thereby contain Iranian influence. Meanwhile, the ambiguous lack of attribution could easily lead to miscalculation in a crisis and an improper strategic response or unnecessary war.

A final way Iran seeks to intimidate and dissuade host nation support for US efforts is through manipulation of Arab public opinion. Iran and their proxies are likely to continue to be obstructionist on issues such as the Palestinian peace process in order to drive wedges between the US and their Arab hosts. Likewise, anti-US actors will seek to portray any western presence as a religious affront--US presence alone will continue to feed the propaganda of violent extremist organizations. Shalapak contends that transparency and information sharing are the crucial elements in ensuring "allies that their interests do not conflict and that cooperation with the US aligns with their own goals."[10]

US Courses of Action for Basing Posture

The drawdown of US forces in Iraq may serve as a strategic opportunity to reexamine and reset the force posture in the Mideast. Since the bases and access agreements that permit US power projection are the key variables in US regional presence, it is critical that the chosen basing posture furthers attainment of desired US end states, while remaining economically and technologically feasible. The first possible course of action is proposed by Barry Posen who argues the US should abandon land bases in the region and return to the pre-1991 Mideast posture. The premise of this concept is that US military presence contributes to political instability of region, overextends US capabilities and plays into the Al Qaeda storyline.[11] Posen

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suggests the US should instead stay "over the horizon" and rely on its power projection capabilities and maritime assets for sea basing.[12] This course of action would reduce the influence that host nations currently exert on US actions and represent a return to the historical preference for nonintervention in the Gulf. The US would rely on Global Strike assets for power projection and on naval forces for forcible entry. While Global Strike assets are critical to defeating robust air defenses, their relative scarcity, long sortie durations and lower sortie generation rates may prove insufficient in a prolonged counterforce campaign; and they would remain reliant on favorable over-flight permissions.[13] Additionally, this course of action would entail high mobility requirements and heavy reliance on sea power, which share susceptibility to elements of Iran's anti-access strategy.[14] Finally, Wherey and company argue that a posture which ended regional US presence as an "external security guarantor" would be clearly be welcomed by Iran and be unacceptable to Saudi Arabia.[15] For these limitations and others, it is in the US' interest to maintain a regional land-based presence.

The second course of action consists of US forces maintaining a purely rotational presence and a light regional footprint. Deputy Undersecretary of Defense for Policy, Ryan Henry espoused this view in 2006, when he stated that the US seeks to:

> Maintain a posture of presence without permanence…assuring our allies, but without unduly heavy military footprints. We seek to maintain…forward operating sites and cooperative security locations for rotational and contingency purposes, along with…prepositioned equipment and forward command-and-control elements.[16]

This approach mirrors the Air Force rotational expeditionary posture of the 1990s. Nevertheless, from an Arab perspective, this "rotational" presence was, in fact, "continuous", and its supposed transitory nature evidently did not discourage attacks like the Khobar Towers bombing.[17] The chief advantage of this approach, as related by Olga Oliker and David Shalpak,

is the inherent diversity gained by locating bases in as many friendly nations as possible.[18] While undeniably an advantageous way to hedge against noncooperative partners, a large basing network brings the disadvantage of logistical and defensive complexity. As an example, consider Richard Burgess' claim that Air Force tankers spread across 15 bases during Operation Iraqi Freedom required far more logistics and infrastructure to support fewer tankers than the five bases that supported air refueling operations during Operation Desert Storm.[19]

A third course of action consists of the US maintaining its current robust and permanent presence in the Mideast. In contrast to Ryan Henry, General David Petraeus seemed to endorse this approach during the 2009 CENTCOM Posture Statement, when he stated:

> CENTCOM's overseas basing strategy (includes) developing the infrastructure necessary for global access, projection, sustainment and protection of our combined forces in the (area). *Fully functional* (emphasis added) sites are essential to our ability to conduct the full spectrum of military operations, engage …partner nations, and act promptly and decisively.[20]

Under this concept, the US would maintain an extensive network of sites. This would enable continuous presence and foster ongoing shaping operations, while minimizing force assembly time in the event of a crisis. Significantly, this strategy would rely on large, concentrated bases that would require robust defense against the full spectrum of anti-access capabilities. As a result, host nations would be subject to Iranian coercive efforts to US access, requiring the US to carefully hedge against imposed limitations or expulsion threats. Moreover, heavy, permanent presence would also be the most antagonistic posture to Islamic extremists and feed grass roots support for terrorist attacks--an important variable that must be factored into the US strategic risk-reward equation.

A significant variable cutting across all of the preceding courses of action would be whether to factor Iraqi bases into the posture calculus. While the Iraq Strategic Framework

Agreement ostensibly requires all US forces to leave by December 2011, some degree of presence will likely continue in a training and advisory role.[21] Potentially, the future Iraqi political dynamic will permit renegotiation of the agreement to allow contingency access to militarily potent bases (such as Al Asad or Balad Air Bases in Iraq). Andrew Terrill, for one, postulates that Iraq would not permit access "unless there is overwhelming political sentiment within that country favoring these bases."[22] Nonetheless, there are compelling arguments for attempting to renegotiate access. Entering a bilateral agreement with Iraq to diversify basing options will increase Iran's defensive challenges. Not only do the western bases lie outside of some of Iran's shorter ranged missiles, but their location complicates Iranian air defense efforts. Finally, there is an undeniable sunk cost argument to retaining access to hardened, mature basing in strategically vital locations, particularly in today's fiscal environment.

The Emerging US Global Defense Posture in the Mideast

Per Andrew Krepinevich and Robert Work, the 2004 Global Defense Posture Review began shifting the US basing posture from a forward-based garrison posture toward one much more in tune with America's historical preference for expeditionary postures.[23] Concurrently, the 2005 Base Realignment and Closure Commission sought to close excess stateside bases, return troops from permanent overseas bases and improve expeditionary capabilities to operate from smaller forward operating sites. In the Mideast, the US basing posture biases toward smaller countries. Terrill asserts that smaller Gulf countries form bilateral defense arrangements with the US since they cannot rely on the Gulf Cooperation Council for mutual defense.[24] Critical to today's Global War on Terrorism, the limitations of such bilateral agreements can include operational restrictions on facilities that limit US freedom of action or subject host countries to coercion by Iran.[25] In the case of countries like Egypt, Saudi Arabia, Turkey and

Iraq, Terrill states, "Large and important states seeking prestige and political leadership in the Arab World find these bases to be a political burden."[26] As a result, the arrangement typically consists of Mutual Defense Partnerships that provide US contingency basing rights, normally without routine presence, in exchange for security guarantees. Jane's Intelligence Review warns against over reliance on such basing, stating "such complex countries experiencing atypical levels of social unrest and political unpredictability [raise] the potential for withdrawal of host nation support."[27]

Threats to the US Basing Posture

Iran's strategy to counter US presence in the region includes anti-access capabilities that seek to prevent rapid US buildup of forces and area denial capabilities that disrupt military freedom of action in the areas under their direct control.[28] While Iran has allowed its conventional military forces to atrophy in the last two decades, it has energetically pursued capabilities capable of exploiting perceived US weaknesses. In particular, Wherey and company point out that, "Iran sees its ballistic missiles as a potent answer to US airpower, both as deterrent to regional states that would grant access to their airbases and as a hindrance to US air operations."[29]
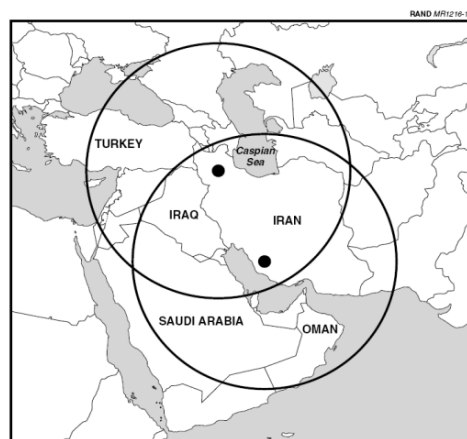

Figure 1 Iranian Shahab-3 Missile Envelopes[30]

According to RAND, Iran possesses an estimated 1580 short and medium range ballistic missiles of various types, giving them a potent strategic attack capability that can reach all Gulf countries.[31] With an approximate range of 700 miles, Iran's estimated 20 Shahab-3 missiles can currently reach most US bases in the Mideast as depicted in Figure 1. Additionally, Iran is believed to be working on propulsion and staging to develop longer-range missiles.[32] Likewise, Iran can be expected to refine guidance and warhead capabilities to increase missile lethality.[33]

Fundamental to its "peripheral strategy," Iran would rely on irregular non-state actors to augment its missile force in a coercive role –the lessons of Hezbollah's hybrid warfare defense of Lebanon remain compelling. Technologically advanced paramilitary forces that blend into the local population already provide a significant base defense challenge in Iraq and Afghanistan. As guidance technology flourishes, Andrew Krepinevich warns in *The Pentagon's Wasting Assets* of the proliferation of guided rockets, artillery, mortars and missiles, which promise to provide low cost, high accuracy and standoff range to irregular forces.[34] Emergence of such weapons will pose a significant threat to high value targets and will force deployment of systems to counter them. A similar development that will challenge base defense capabilities is the explosion in access to unmanned aerial vehicle technology. Besides their low cost and considerable reconnaissance capabilities, such aircraft could be satellite-guided and armed with a variety of warheads. Indeed, *The Washington Times* reported that "in 2007 Iran claimed to have begun producing 'suicide drones' invisible to radar and usable as guided missiles to attack US ships." The article went on to warn, "Random explosions on US bases…in the region might be blamed on terrorists, while Iran maintains plausible deniability."[35] Countering stealthy unmanned threats will require integration of effective cueing and targeting solutions. To ensure adequacy of detection and cueing, the US should consider formal tactical evaluations of

surveillance system performance against similar low radar cross section threats. Next, the US should investigate a variety of emerging systems in the point defense role to mitigate the threat and provide a "goalie" capability to existing missile defense systems. Directed energy, for one, has already demonstrated capability against unmanned air vehicles and rocket threats and with development, might provide end game capability against missile threats.[36]

Analysis of the Proposed Basing Strategy

Assessing the Risks

The risk associated with Iranian threats is a result of the probability of use and severity of the consequences. The most potent combination of these factors should therefore drive the prioritization of risk control measures. While nuclear attack would be Iran's most dangerous threat, it will arguably not be their most likely response--perhaps posing a lower statistical risk than their other capabilities. Table 1 provides an assessment of the risk levels associated with a variety of current and postulated threats. (See Appendix A for methodology.)

Table 1. Risk Level Assessment of Current and Postulated* Iranian A2/AD Capabilities

SEVERITY	PROBABILITY				
	FREQUENT	LIKELY	OCCASIONAL	SELDOM	UNLIKELY
Catastrophic					Nuclear M/SRBM* Chem/Bio M/SRBM*
Critical			Terrorist Attack Accurate M/SRBM*	Ground Forces Attack Guided Indirect Fire* Guided UAV	
Marginal		Cyber*	Indirect Fire Conv. M/SRBM	Conventional Aircraft	
Negligible					

LEGEND			
Extremely High Risk		High Risk	
Moderate Risk		Low Risk	

Table 1 shows that the threat *currently* posing the highest risk to US bases is terrorist attack. Understandably, US military leaders have devoted significant resources to mitigating this

threat on US expeditionary bases. On the other end of the spectrum, the risk of conventional air attack from Iran is "low"—the Iranian Air Force is under-resourced and defensive-minded. Interestingly, defensive counterair is an area of robust Gulf Cooperation Council capabilities, perhaps representing a misprioritization of their defense investment. However, if Iranian claims of stealthy unmanned aircraft are founded, their ability to conduct successful air attacks becomes much more credible. Finally, ground attack by proxy, both through direct and indirect fire, presents an imminent base defense challenge in the region. Force protection measures employed in Iraq and Afghanistan provide the model for countering these threats. Unfortunately, such measures are manpower and resource intensive.

Dispersal and Tiering of Bases

In *An Air Force Strategy for the Long Haul,* Thomas Ehrhard identifies four keys to operating under missile threat: dispersal, base hardening, active defense and survivable warning systems.[37] Dispersal physically isolates vulnerable assets from strikes and complicates enemy targeting. Vital missions must be operationally dispersed through provision of non-collocated secondary locations. Dispersal techniques can be inefficient in that they require more infrastructure, increased travel times, complex logistics and larger defensive requirements given redundant locations. Nonetheless, vital assets must be dispersed so that no single blow can cause mission failure. Distributed operations, a subset of operational dispersal, consist of small numbers of aircraft, operating from dispersed bases, supported by small detachments.[38] Worthy of additional study, the concept may incur concerns for control, force protection and logistical costs.

In *Concentrating on Dispersed Operations,* Major W. E. Pinter proposed a tiered concept for Pacific Rim bases based on proximity to Chinese threats. Tier 1 bases would be outside the

majority of threats and provide relative safe havens for large, vulnerable aircraft as well as being logistics hubs, while Tier 2 bases would be defined as those within the threat rings.[39] Applying this concept to the Mideast, Figure 2 shows several potential Tier 1 bases in the Mideast. Expanding access to the bases in large countries would prove problematic for the reasons previously discussed. Access in the smaller countries might prove similarly problematic; however, diplomatic engagement should explore what is possible.[40]
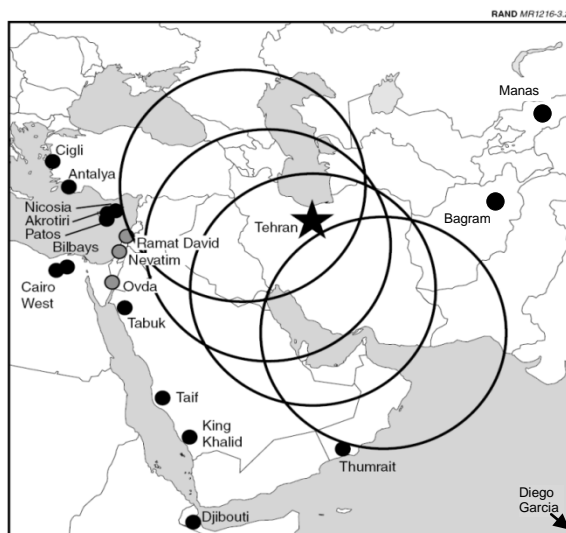

Figure 2 Potential Tier One Bases[41]

Tier 2 bases would require considerable hardening to survive and operate in the face of an advanced missile threat. Hardened aircraft shelters should be considered a prerequisite for these bases. However, third generation fighter-sized shelters are expensive to construct and operate (best case $3.1 million each, higher in the CENTCOM area of responsibility).[42] Worse, shelters for larger aircraft are orders of magnitude more expensive than those built for fighters.[43] Additionally, as Shalapak notes, there are a number of valuable and vulnerable assets that are not so easily protected, including fuel and maintenance facilities, personnel and lodging.[44] While critical fuel facilities can be defended by hardening or burial (at a cost), it will be impractical to protect all essential assets (command/control, medical, etc.) from robust enemy attack.

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Therefore, given the scale of the challenge, the US must develop plans for key assets to retrograde to Tier 1 range, while also fielding robust rapid-repair capabilities to reopen runways or other key facilities.

Active Defense

Since the mid-1980s, the US has invested heavily in active defenses against ballistic missiles with mixed results.[45] Of fielded systems, both Theater High Altitude Area Defense and Patriot Advanced Capability-3 are terminal phase interceptors, while Aegis Ballistic Missile Defense has capability in both the terminal and midcourse segments. With the cancellation of the Airborne Laser program, the US has no fielded boost or ascent phase interceptors, though the US Missile Defense Agency is developing early intercept capabilities enabled by networked remotely piloted vehicles and space assets.[46] Evolution of such capabilities will prove strategically vital in the future and must be pursued. In the near term, it is imperative that Gulf countries continue to upgrade and expand their ballistic and air defense systems to ensure interoperability with US systems.[47]

In *Shielding the Sword,* Thomas Bergeson cautions, "Since the USAF contains no organic assets for ballistic missile defense, it depends on the supported (or supporting) geographic commander to assign Patriot for protection from these threats."[48] This relationship means that the Joint Force Commander must allocate such assets with an appreciation of the risk posed to the USAF airpower mission by Iran. On a related note, "end game" point defense systems such as Counter-Rocket, Artillery and Mortar and Laser Avenger represent rapidly evolving capabilities.[49] To best integrate such systems into the overall base defense mission, the USAF should aggressively pursue opportunities to equip organically its bases and operate such systems.

Hedging Against Uncertainty

The US basing diversification strategy must present options for policy makers to connect regional political objectives with warfighting and acquisition goals. Of the proposed courses of action, "presence without permanence" seemingly promises to offer the more effective balance of diversified US regional access and host nation sensitivity than a posture characterized by "robust and continuous presence." However, the evolving nature of the threat cautions against overreliance on austere cooperative security locations or lightly defended forward operating sites as the foundation for US power projection. The strategic challenge therefore remains a matter of balancing presence and preparedness. As a compromise solution, the US could seek to enhance the warfighting capabilities of its existing bases while looking for opportunities to dilute its overt presence by conducting small-scale, operations at dispersed, but defended locations. To defray infrastructure costs partially, a prudent approach might be to align dispersed operations with existing facilities of partner nation air forces. This would additionally provide opportunities for military-to-military engagement, fostering of long-term relations and enhancement of common understanding. In conjunction with efforts to build the military capabilities of regional partners, the US could thereby reduce vulnerability in a variety of scenarios while adding to overall deterrent credibility.[50]

In the realm of acquisitions, planners must pursue efficient joint solutions to anti-access challenges while avoiding the temptation to migrate towards separate service-derived systems.[51] Nonetheless, investment in Global Strike and similar standoff assets will provide a degree of insurance against the distinct possibility that ballistic missile defense does not technically mature to meet expectations. Kosiak, Krepinevich and Vickers advocate investment in "long-range,

stealthy strike assets," such as the B-2 or follow on platform as an "important hedge against the growing vulnerability of forward-based aircraft."[52]

Nuclear Considerations

If Iran's nuclear ambitions are fulfilled, what are the implications for US basing posture and policy? Krepinevich and Work state, "All things being equal, US willingness to project power against nuclear-armed adversaries, especially those with unknown views on first use and deterrence, would likely be much more constrained than against those who do not possess them."[53] They postulate, "Iran would likely be able to coerce or dissuade many US allies within missile range from granting…any form of operational access."[54] This point is debatable in that the US would potentially extend nuclear security guarantees for Arab states that offer basing rights.[55] To reinforce deterrence, Barry Posen makes the following policy recommendation: "The US should make it clear to Iran that…use of its nuclear weapons, for blackmail or for war, would put Iran in the gravest danger of nuclear retaliation."[56] However, if attempts to counter Iranian aggression evolved into a scenario that threatened regime survival, their desperation may well produce a credible nuclear employment threat. The US may then find itself in a very high-risk situation, with few options besides dispersal, retreat and retaliation in kind. In such an event, the US military leaders would need to scrutinize closely the potential gains of remaining in concentrated garrison locations protected by a fallible missile defense system.

Conclusions

The Mideast has become a dangerous neighborhood and, by all estimates, it will only become more so. Unfortunately, barring a radical innovation that expands the world's energy supply, it will remain an area of vital strategic importance to the US and its allies into the future. As such, it will continue to require a robust US military presence to provide the foundation for

regional security and to contain and deter expansionist moves by Iran. Regrettably, this presence will continue to present political challenges, both for host governments and for US policy. Likewise, the challenges presented by Iran's nuclear program and anti-access strategy will increase the risk that the US government must accept for unfettered access to the region. Against this context, the US is exploring force posture solutions to answer the Iranian challenge to its influence, while minimizing the risks to forces and strategic interests.

The emerging diversified basing posture fundamentally aligns with the larger US strategy against Iran and is on the right course with respect to operational flexibility. Despite rhetoric to the contrary, semi-permanent US presence will continue to be encouraged by smaller Arab countries and tolerated on a contingency basis by larger countries. To further its long term role as external security provider, the US should seek to maintain a low profile by keeping its permenant posture heavy on sea basing and relatively light on "boots on the grounds." However, to ensure access in a crisis, the US must keep an array of bases in an advanced "warm" status that are built to withstand missile or ground attack and ready to accept follow on forces. Given the time required to build up forces and facilities, the days of being able to fall in on an undeveloped airfield, establish expeditionary facilities and conduct opposed air operations are clearly numbered. To align the US basing diversification strategy with the regional political, warfighting and acquisition strategic objectives, the following policy recommendations are offered:

1. The United States should adopt a tiered basing strategy. The US should prioritize base defenses in a tiered system. Bases inside the Shahab-3 baseline envelope should be hardened and defended to provide hubs for aircraft that must operate in proximity to the threat. Plans should investigate the practicality of placing key infrastructure underground and defending

against chemical or biological threats. Where possible, the US should physically disperse aircraft and key buildings to prevent decapitating blows. Outside this tier, the US should consider developing an outer ring of "safe haven" bases to diversify options for mission enabler and bomber aircraft. Since the outer ring bases will require mature logistics tails to ensure throughput of fuel and cargo, the US should consider basing some aircraft at these locations on an ongoing basis.

2. The USAF should develop a concept of operations for distributed air operations. The USAF should develop, test and evaluate methods for operating small numbers of aircraft from a variety of dispersed sites. Despite significant control, force protection, maintenance and logistical challenges, the concept promises to provide commanders a degree of operational flexibility.

3. The USAF should develop a concept of operations for point defense of its airbases. The concept should explore the integration of terminal-phase missile defense systems and assets such as directed energy that are useful against a variety of air threats in the "end game" of their profiles. The concept should consider both active and passive defense techniques.[57] Most importantly, through the Office of the Secretary of Defense, the USAF should resolve what service should "own" this capability.

4. The USAF should research and develop shelters to protect critical capabilities. The US should explore a variety of technologies to reduce hardened aircraft shelter construction costs and better defend assets against increasingly accurate munitions. Concepts worthy of examination include active armor, prefabrication and large span bays capable of sheltering large aircraft.

5. The US should continue to develop and exercise a robust, integrated regional air and missile defense network. While several elements of such a system are currently in place, the system must be fielded on a permanent basis with overlapping coverage and redundancies. The United Arab Emirates' initiative to purchase Theater High Altitude Area Defense is encouraging. Though likely to meet congressional opposition, it should be earnestly pursued.

6. The US should renegotiate the Strategic Framework Agreement with Iraq to provide contingency access and prepositioning of key equipment. As political situation in Iraq evolves and improves the US should open discussions with Iraq on the future use of their bases. In the absence of clarification, the US must ensure that bases are handed over in condition to be hastily reoccupied in the event of a crisis should the Iraqi government request assistance.

Fully implementing these recommendations will be problematic fiscally and politically, but presents a basis from which to prioritize. Once the Iranian regime successfully demonstrates nuclear weapons ability, it will be too late to react without exposing either US forces or interests to unacceptable risks. Therefore, the time is now to seize the initiative by consolidating current US posture advantages into long-term strategic gains.

Glossary

Cooperative Security Location. A facility located outside the United States and US territories with little or no permanent US presence, maintained with periodic Service, contractor or host-nation support. Cooperative security locations provide contingency access, logistic support and rotational use by operating forces and are a focal point for security cooperation activities. Also called **CSL.**

Forward Operating Base. An airfield used to support tactical operations without establishing full support facilities. The base may be used for an extended time period. Support by a main operating base will be required to provide backup support for a forward operating base. Also called **FOB.**

Forward Operating Site. A scalable location outside the United States and US territories intended for rotational use by operating forces. Such expandable "warm facilities" may be maintained with a limited US military support presence and possibly pre-positioned equipment. Forward operating sites support rotational rather than permanently stationed forces and are a focus for bilateral and regional training. Also called **FOS.**

Main Operating Base. A facility outside the United States and US territories with permanently stationed operating forces and robust infrastructure. Main operating bases are characterized by command and control structures, enduring family support facilities, and strengthened force protection measures. Also called **MOB.**[58]

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Appendix A

Risk Assessment Matrix

PROBABILITY

S E V E R I T Y		FREQUENT	LIKELY	OCCASIONAL	SELDOM	UNLIKELY
	Catastrophic	E	E	H	H	M
	Critical	E	H	H	M	L
	Marginal	H	M	M	L	L
	Negligible	M	L	L	L	L

PROBABILITY

FREQUENT - Occurs often, continuously experienced.
LIKELY - Occurs several times.
OCCASIONAL - Occurs sporadically
SELDOM - Unlikely, but could occur at some time
UNLIKELY - Can assume it will not occur

SEVERITY

CATASTROPHIC - Death or permanent total disability, system loss, major damage, significant property damage, mission failure.
CRITICAL - Permanent partial disability, temporary total disability in excess of 3 months, major system damage, significant property damage, significant mission degradation.
MARGINAL - Minor injury, lost workday accident, minor system damage, minor property damage, some mission degradation.
NEGLIGIBLE - First aid or minor medical treatment, minor system impairment, little/no impact on mission accomplishment.

RISK LEVELS

EXTREMELY HIGH (E) - Loss of ability to accomplish the mission.
HIGH (H) - Significantly degrades mission capability in terms of required mission standards
MODERATE (M) - Degrades mission capabilities in terms of required mission.
LOW (L) - Little or no impact on mission accomplishment.

Figure 3 Risk Assessment Matrix[59]

Notes

(All notes appear in shortened form. For full details, see the appropriate entry in the bibliography.)

1 Department of Defense, 2006 Quadrennial Defense Review, 30.

2 Cornell, Curtis, Less, Martin, Taylor and Thomson, Report to Congress: Commission on Review of the Overseas Military Facility Structure of the United States, 43.

3 Wehrey et al., *Saudi-Iranian Relations Since the Fall of Sadaam: Rivalry, Cooperation, and Implications,* 59. At the same time, an audience of several thousand reportedly chanted "Down with America!" during his speech.

4 Wehrey, Thaler, Bensahel and Cragin, Dangerous but Not Omnipotent: Exploring the Reach and Limitations of Iranian Power in the Middle East, 41-42.

5 As the UK experienced after the holding of their sailors in 2004 and again in 2007

6 As an example, consider Iranian "Photoshopping" of non-existent ballistic missiles into official press releases as related in Kamen, "Iran Apparently in Possession of Photoshop". Additionally, Iran often flaunts their more exotic capabilities, such as the visually impressive, but militarily dubious high-speed, super-cavitating torpedoes fired publically in 2006.

7 Wehrey et al., *Dangerous but Not Omnipotent,* 42.

8 Ibid, 33.

9 Green, Wehrey and Wolf, *Understanding Iran,* 59. As an example, Green and company cite the difficultly in attributing responsibility "for the activities of the Qods Brigade in Iraq to the Iranian leadership," given the apparent disconnect between these elements within the Iranian government. Likewise, Iran's undeniable influence on Hezbollah and Hamas does not necessarily imply culpability in the proxy's actions.

10 Shalapak, Stillion, Oliker and Charlick-Paley, *A Global Access Strategy For The U.S. Air Force,* xv-xvi. Shalapak et al. also point to a retaliatory Arab oil embargo in response to Portugal's airbase support for the 1973 US airlift to Israel as an example of a reprisal for US cooperation, p. 22.

11 Posen, A Grand Strategy of Restraint, 96.

12 Ibid, 97.

13 For a more complete discussion of the sortie/payload tradeoffs between bomber and fighter aircraft, see Shalapak, et al., *Global Access Strategy,* 96-98. While their analysis does not include newer munitions such as small diameter bomb, it also does not reflect curtailment of F-22 and F-35 purchases, which are considered part of the Global Strike Concept. For a quick synopsis of the Global Strike Concept of Operations, see http://www.globalsecurity. org/military/agency/usaf/gstf.htm (accessed January 18, 2010).

14 Scope prohibits full examination of Iran's formidable challenges to sea basing and ability to deny access to maritime traffic. For an introduction to the topic, see Anthony H. Cordesman, Iran and the Challenges to US Policy, Center for Strategic and International Studies, August 11, 2009 available on line at http://csis.org/files/publication/090812_iranbrief.pdf (accessed January 18, 2010).

15 Wehrey et al., *Dangerous but Not Omnipotent*, xiii. While Saudi Arabia does not currently host US forces on its territory, Wherey et al. contend that the Saudi government desires US regional presence as an external guarantor of security.

16 Henry, "Transforming the U.S. Global Defense Posture", 27.

17 The Downing Report on the Khobar Towers bombing identified that "the rotation policies established by the services mean that over 25,000 servicemen and women serve in the Kingdom in any given year. This creates enormous challenges for continuity of operations, teamwork and unit cohesion, development of cooperative relations with the Saudi military and police, and ultimately for security of the force." Available online at http://www.au.af.mil/au/awc/ awcgate/khobar/downing/downrept.htm.

18 Oliker and Shalapak, *U. S. Interests in Central Asia: Policy Priorities and Military Roles,* xvi.

19 Burgess, "Tanker Basing Limitations Posed Challenge During Operation Iraqi Freedom Air Campaign, 37. As another example of logistical challenges, Burgess points out that during Operation Iraqi Freedom Prince Sultan Air Base had a four-mile line of fuel trucks for more than a week to supply fuel to the base.

20 Petraeus, *Senate Armed Services Committee Statement.*

21 As an example of one of several guarded references to US forces remaining after December 2011, consider the following from the Washington Independent quoting Iraqi Prime minister al-Maliki. "While speaking to an audience at the U.S. Institute of Peace in Washington, Maliki said the accord, known as the Status of Forces Agreement, would "end" the American military presence in his country in 2011, but "nevertheless, if Iraqi forces required further training and further support, we shall examine this at that time based on the needs of Iraq," http://washingtonindependent.com/52402/iraqi-prime-minister-open-to-renegotiating-withdrawal -timeline. (accessed January 21, 2010).

22 Terrill, *Regional Fears of Western Primacy and the Future of U.S. Middle Eastern Basing Policy,* ix.

23 Krepinevich and Work. *A New Global Defense Posture for the Second Transoceanic Era,* 207. Of note, much of the US political momentum for reducing permanent US presence in Germany and South Korea has diminished since the 2004 initiative.

24 Terrill, *Regional Fears of Western Primacy ,* 44. Indeed Qatar, UAE, Oman and Kuwait have each signed bilateral agreements, which offer US basing and airspace rights in exchange for US military security guarantees.

25 As evidenced by Ahmadinejad's pressure on the UAE mentioned in the introduction.

26 Terrill, *Regional Fears of Western Primacy,* 79.

27 Jane's Information Group, "US Military Basing Posture Undergoes Transformation." The refusals of both Turkey and Saudi Arabia to permit their bases to support fully the execution of Operation Iraqi Freedom are illustrative. Likewise, conflicting goals consistently impeded US-Saudi cooperation during operations to enforce the Iraqi southern no-fly zone during the 1990s; the Saudis limited permissible mission types and ordnance to avoid the appearance of supporting a punishment strategy against fellow Arabs.

28 Krepinevich, Watts and Work. *Meeting the Anti-Access and Area-Denial Challenge,* ii.

29 Wehrey et al., *Dangerous but Not Omnipotent*, 52.

30 Shalapak et al., *Global Access Strategy,* 12.

31 Wehrey et al., *Dangerous but Not Omnipotent*, 59. The report refers to 1200 SRBMs (SCUD B/C, Tondar-69), and 380 MRBMs (Shahab-1/2/3). The report estimates approximately 20 are Shahab-3.

32 Iran's 2008 orbital launch demonstration is telling of the progress made.

33 Regarding ongoing effort Jane's Sentinel Security Assessment states, "Tehran has allegedly procured and integrated a Chinese missile navigation system into the Shahab-3,

apparently based on the Global Positioning System (GPS)." Available online at http://search.janes.com/Search/documentView.do?docId=/content1/janesdata/sent/gulfsu/gulfa02 5.htm. (accessed January 2010).

34 Krepinevich, *The Pentagon's Wasting Assets: the Eroding Foundations of American Power*, 24.

35 The Washington Times, "Editorial: New Iranian Capability is Troublesome", 1.

36 The Boeing Laser Avenger has demonstrated an anti-UAV capability with several successful shoot downs. For more information, reference http://www.boeing.com/ news/releases/2009/ q1/090126a_nr.html. (Accessed January 18, 2010). As an example of high-end systems under development, consider the Free Electron Laser being developed to protect ships from advanced threats such as hypervelocity cruise missiles. Reference http://www.boeing.com/defense-space/ic/des/files/DES_overview.pdf. (accessed January 21, 2010).

37 Ehrhard, *An Air Force Strategy for the Long Haul,* 94.

38 Ibid, 58. In many ways, the concept is analogous to the super carrier-small carrier debate that persists in Navy circles. For more discussion, refer to Tan Puay Seng , "Is the Super Carrier Going to be Obsolete?", Journal of the Singapore Armed Forces, Jan-Mar 1999, available online at http://www.mindef.gov.sg/safti/pointer/back/journals/1999/Vol25_1/2.htm. (accessed Jan 18, 2010)

39 Pinter, *Concentrating on Dispersed Operations, Answering the Emerging Antiaccess Challenge in the Pacific Rim,* 54-55. Tier 2 bases would serve as "dispersed forward locations" to "achieve persistence, sortie generation, and loiter time necessary to project power at rates and efficiencies not attainable by long-range systems."

40 Of the small country bases shown, Djibouti probably has the most potential for expansion beyond its current Global War on Terrorism role. Access to Jordanian or Israeli bases would be politically sensitive to Arabs and expanded access to Cyprus or Crete would cause issues between Greece and Turkey.

41 Shalapak, et al., *Global Access Strategy,* 54. Figure modified with additional bases added by author.

42 Third generation fighter sized hardened shelters baseline cost is $368 per sq. ft. per the FY09 Unified Facilities Criteria. Location and contingency adjustments are significant. Per the Department of Defense Explosives Safety Board (available online at http://www.ddesb.pentagon. mil/append_a_2.html, accessed January 18, 2010), such shelters are approximately 120' x 70.8', or 8600 sq. ft.

43 Stillion, *Fighting Under Missile Attack*, 37. Hardened shelters are available that could protect large aircraft from missile attack, but their cost is staggering. Stillion estimates $700 million for a large, 12-bay structure.

44 Shalapak, et al., *Global Access Strategy,* 53.

45 Missile Defense Agency, *Terminal High Altitude Area Defense Fact Sheet*. Currently deployed interceptors include Patriot Advanced Capability-3 and Aegis Ballistic Missile Defense. Additionally, the first Terminal High Altitude Area Defense system was fielded in 2008 and was designed to be "highly effective against asymmetric ballistic missile threats."

46 Ibid.

47 Such work began with the 2001 Cooperation Belt Project, which provides for cooperative identification and tracking of all aircraft in airspace over Saudi Arabia and surrounding the six

Gulf Arab States. Reference http://www.saudia-online.com/press/press3.shtml. (accessed January 18, 2010).

48 Bergeson, *Shielding the Sword: A Strategy for Protecting the AEF,* 54.

49 C-RAM is an Army-operated Counter Rocket, Artillery and Mortar system which is designed to defend localized areas. Reference http://www.globalsecurity.org/military/ systems/ground/cram.htm (accessed January 18, 2010.)

50 As an example, US support for the Gulf Air Warfare Center represents an opportunity to engage and dramatically improve the capabilities of GCC air forces; clearly, this competence must then become a part of Iran's strategic calculus. Conversely, the US must remain cognizant of the potential pitfalls, such as unauthorized technology transfer or even arming a future enemy (after all, Iran was once a US arms recipient) and carefully vet and manage its military relationships.

51 For example, the USAF's Global Strike Task Force, USN's Littoral Combat Ships and Army's Future Combat System represent single-service solutions to the anti-access challenge. For more information and recommendations on joint anti-access solutions, see Krepinevich, Watts and Work*, Meeting the Anti-Access and Area-Denial Challenge,* 7.

52 Kosiak, Krepinevich and Vickers, *A Strategy For a Long Peace*.

53 Krepinevich and Work, *A New Global Defense Posture for the Second Transoceanic Era,* 213.

54 Ibid, 215.

55 Wehrey, Karasik, et al., *Saudi-Iranian Relations Since the Fall of Sadaam: Rivalry, Cooperation, and Implications*, 68-69. Wehrey and company point out that US security guarantees to Saudi Arabia have represented a fundamental incentive for the Kingdom to curb its own nuclear programs.

56 Posen, *A Nuclear-Armed Iran A Difficult, But Not Impossible Policy Problem*, 23. As Posen bluntly states, "to be a nuclear armed state is to be a nuclear target."

57 Both active and passive techniques, such as GPS denial and camouflage, concealment and deception, should be considered.

58 Air Force Doctrine Document 2-4.4, *Bases, Infrastructure and Facilites,* 53-59.

59 Table available on-line at http://www.cmtc.7atc.army.mil/Support/Risk_management_ summer/RISKMATX2.PPT.