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The 2010 National Space Policy: Down to Earth?

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The 2010 National Space Policy, intended “to express the President’s direction for the Nation’s space activities,”¹ was released by the Obama Administration on June 28. Responses were for the most part swift and predictable. While drawing heavily from past consistent principles, all analysts agreed that the tone and emphasis differed significantly from the 2006 Bush Administration policy, which itself was a departure from past policies in terms of a greater military focus and nationalistic orientation.² Views on which tone and emphasis is best has ranged along the ideological spectrum. A sampling of opinions is indicative. Baker Spring, from the conservative Heritage Foundation, focused on the Bush approach to space being “right” as much or more than analyzing the Obama policy.³ Jeff Keuter at The Marshall Institute provided a useful side-by-side comparison of the language, in part, it seems, toward establishing that the Bush policy was consistent with past policies and therefore any

changes in the Obama policy required explanation for the shift.⁴ Michael Krepon at the Stimson Center positively noted the difference between the Bush and Obama policies regarding Obama’s renewed openness to consider diplomatic initiatives toward strengthening U.S. international leadership on space issues, but cited a lack of specifics about potential initiatives, appearing disappointed that the policy did not go further.⁵ Some analysts thought there were too many details, some not enough. Experts on a panel held shortly after the policy was released sponsored by The Secure World Foundation (SWF) and The Arms Control Association (ACA) again noted content consistencies with the past, and differences in tone from the Bush policy. Independent analyst Marcia Smith from SpacePolicyOnline.com said it was “less nationalistic, more friendly” but noted “she had a friend” who viewed it as a “policy of appeasement rather than leadership.” Bruce MacDonald from the U.S. Institute for Peace said he for one was “overall quite pleased with the revised policy”,⁶ Not surprisingly, professionals and pundits alike read the policy

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¹ Fact Sheet, The National Space Policy, The White House, June 28, 2010. <http://www.whitehouse.gov/the-press-office/fact-sheet-national-space-policy>

² Joan Johnson-Freese, “The New U.S. Space Policy: A Turn Toward Militancy?” *Issues in Science and Technology*, Winter 2007.

³ Baker Spring, “Obama’s National Space Policy: Subordinating National Security to Arms Control,” *Webmemo*, The Heritage Foundation, No. 2950, July 6, 2010.

⁴ Jeff Keuter, “Evaluating the Obama National Space Policy: Continuity and New Priorities,” Policy Outlook, The George C. Marshall Institute, July 2010; The Space Foundation provided an comparison as well, U.S. national Space Policy Comparison: Comparing the 2010 National Space Policy to the 2006 National Space Policy, www.SpaceFoundation.org/research

⁵ Michael Krepon, “The Obama Administration’s National Space Policy,” 30 June 2010. <http://www.stimson.org/pub.cfm?ID=983>

⁶ Panel Discussion – The New National Space Policy: Prospects for International Cooperation and Mankind Safe Safer for All. July 1, 2010. www.armscontrol.org/events/newnationalspacepolicy

much like a Rorschach test, interpreting it largely based on long-established prior perspectives. Across the spectrum of opinion, all acknowledged that the devil is in the details of implementation.

My own view of the policy is most akin to that of SWF attorney Ben Baseley-Walker, another SWF/ACA panel member. He summarized it as “a very sound, pragmatic approach.” I would call it simply a realistic policy. It has both strengths and weaknesses, but overall, commendably, it attempts to inject realism into future U.S. space planning, and realism will ultimately strengthen U.S. security.

While inherently more long-term focused and therefore less immediately satisfying, it is important to remember the classic military requirement for an executable, successful plan of attack -- alignment of ends-ways-means. Certainly the requirement for a prolonged U.S. military presence in Iraq after the initial shock-and-awe success demonstrated how a mismatch between those key elements can result. Unfortunately, looking long-term will likely not bode well for the Obama Administration, as the last thing many American people seem to want, and therefore politicians will support, is a policy that recognizes and addresses the changing realities of the space environment. Nevertheless, several areas of change in the policy specifically reflect looking at the world as it is, rather than how the United States wants it to be.

Reality as Risky Political Business

Andrew Bacevich in his 2008 book *The Limits of Power: The End of American Exceptionalism* examines President Jimmy Carter’s 1979 speech to the American people about self-indulgence (specifically regarding oil) and what Bacevich terms “profligacy.” That speech was quickly dubbed “the malaise

speech” by his political opponents, though the word malaise was never used by Carter. His opponent for the presidency, Ronald Reagan, countered with “morning in America” talks which, Bacevich says convinced Americans that “credit has no limits, the bills will never come due.”⁷ Fast-forward to the October 19, 2009, cover of *The National Review*. It featured a cover image of a robed Obama wearing his Nobel medal while contemplating a bust of Carter. Clearly Obama is intended to be viewed as the snooty, contemporary version of Carter, bearer of bad news and pessimism.

In some quarters, the contemporary additive to the malaise rhetoric is that of decline; instilling fear in the American public that if we don’t act (panic) now and act aggressively, America will fall off the precipice of hegemony and into economic, political and/or social decline. “Decline,” *The National Review* cover stated, “is a Choice.” Using declinist images and rhetoric is perhaps to be expected in partisan politics. However, it is both hackneyed and hyperbolic; eventually each cycle of declinism gives way to reality.⁸

James Fallows in his January/February 2010 article in *The Atlantic* addresses this notion. He points out that declinism is woven into our culture. “Thomas Jefferson was sure the country was going to hell when John Adams supported the Alien and Sedition Acts. And Adams was sure it was going to hell when

⁷ Andrew J. Bacevich, *The Limits of Power: The End of American Exceptionalism*, (New York, Metropolitan Books, 2008) p.36.

⁸ Joan Johnson-Freese and Thomas M. Nichols, “U.S. Less Dominant But So What?” Op-Ed, *DOD Buzz*, November 25, 2009.

http://belfercenter.ksg.harvard.edu/publication/19743/us_less_dominant_but_so_what.html?breadcrumb=%2Fexperts%2F2145%2Fjoan_johnsonfreese%3Fback_url%3D%252Fpublication%252F20227%252Fspace_stability_and_nuclear_strategy%253Fbreadcrumb%253D%2525252F%26back_text%3DBack%2520to%2520publication

Jefferson was elected.”⁹ While assuring us that America has historically gone through cycles of crisis and renewal, he also reminds us that renewal takes effort, sometimes based on hard choices, and addressing issues and problems realistically.¹⁰

This pragmatic approach, however, is not the stuff of the polarized partisan politics sadly characterizing America today. More typically seen is the profligacy of which Bacevich warns, generalized public anger, and a distinct disdain of expertise – the latter especially dangerous on issues such as space where the laws of physics prevail over ideology and wishful thinking. National security, however, is not well served by wishful thinking, nor is realism synonymous with decline. Space assets are too important as vital national interests – and stated as such in both the Bush and Obama policies -- to be subjected to the facile analysis of “declinism” and “gut” analysis rather than sound, though admittedly difficult, realistic strategic planning for a stable and secure future.

Tone and Leadership

The Obama policy begins with two epigraphs, one from President Eisenhower and one from President Obama. These epigraphs speak to the consistent connection between American goals in space and improving life on Earth, and their relationship to American leadership more broadly. They establish a cooperative tone and put forth an important justification for space activity for those who still question why we spend finite U.S. resources on space rather than here on Earth.

⁹ James Fallows, “How America Can Rise Again,” *The Atlantic*, January/February 2010, p 48.

¹⁰ *Ibid*, p 55.

Here is President Eisenhower in 1958:

More than by any other imaginative concept, the mind of man is aroused by the thought of exploring the mysteries of outer space. Through such exploration, man hopes to broaden his horizons, add to his knowledge, improve his way of living on Earth.

And President Obama today:

Fifty years after the creation of NASA, our goal is no longer just a destination to reach. Our goal is the capacity for people to work and learn and operate and live safely beyond Earth for extended periods of time, ultimately in ways that are more sustainable and even indefinite. And in fulfilling this task, we will not only extend humanity’s reach in space – we will strengthen America’s leadership on Earth.¹¹

These epigraphs talk about all people being able to fully utilize space and the benefits it yields, thereby setting the stage for an internationally cooperative policy.¹²

The 2006 Bush policy, by contrast, was either more assertive and patriotic, or more caustic and bombastic, depending on ideological perspective. While domestic opinion was split, international opinion leaned heavily toward the latter. *The Times* of London perhaps best summed up the international view in an October 19, 2006, commentary entitled “America Wants it All – Life, the Universe, and Everything.” There the author posited that space apparently was no longer the final frontier, but the 51st state of the

¹¹ U.S. National Space Policy, June 28, 2010. p. 1

¹² Deputy Assistant Secretary of State Frank Rose called international cooperation a “key cornerstone” of the new policy. Press Conference: Deputy Assistant Secretary Frank A. Rose – U.S. National Space Policy 2010, July 13, 2010. <http://geneva.usmission.gov/2010/07/13/rose-press-briefing>

United States. It went on to say that “The new National Space Policy that President Bush has signed is comically proprietary in tone about the U.S.’s right to control access to the rest of the solar system.”¹³

The Obama tone reflects the reality that leadership cannot be coerced (at least not indefinitely) and true leadership requires others wanting to follow. While many of the same points are reiterated in the Obama policy as in the prior Bush policy, they are reiterated in less nationalistic language and recognize that a right declared by the United States is going to be expected to have universal application.

Jeff Foust points out a useful example of difference in tone and language in his article, “A Change in Tone in National Space Policy”:

For example, the Bush policy stated “The United States considers space systems to have the rights of passage through and operations in space without interference. Consistent with this principle, the United States will view purposeful interference with its space systems as an infringement on its rights.” Contrast that with the new policy: “The United States considers the space systems of all nations to have the rights of passage through, and conduct of operations in, space without interference. Purposeful interference with space systems,

...true leadership requires others wanting to follow.

including supporting infrastructure, will be considered an infringement of a nation’s rights.” The Bush policy spoke only of interference with US space systems, while the Obama policy refers to interference with any nation’s space systems.¹⁴

If the goal of the United States is to maintain space as a peaceful, secure and sustainable environment for the benefit of all - a global commons - then it must lead by example and in a way that others are willing to follow.¹⁵

With almost one thousand space assets in orbit critical to all aspects of our way of life and security, and almost half belonging to the United States,¹⁶ “stability” is not just a realistic policy goal, but a security imperative. It is not in the interest of the United States to have the space environment (more) littered and volatile. Bruce MacDonald pointed out that the 2009 Strategic Posture Review Commission reached similar conclusions about space. MacDonald, who served as Senior Director to the Commission, noted the commission recommendation “that the U.S. should develop and pursue options for U.S. interests and stability in space, including the possibility of negotiated measures.” This commission was not a group of left-wing ideologues; it was six Republicans and six Democrats headed by former Defense

¹³ Bronwen Maddox, “America Wants it All – Life, the Universe, and Everything,” *The Times* (London), October 19, 2006. http://www.timesonline.co.uk/tol/comment/columnists/bronwen_maddox/article605583.ece. See also: “Russian official slams new US space policy as leading to confrontation,” *BBC Monitoring Former Soviet Union*, December 1, 2006; “Bush Doctrine goes into space: Unilateralism at the last frontier,” *Sydney Morning Herald* (Australia), October 23, 2006, p.14.

¹⁴ Jeff Foust, “A change in tone in national space policy,” *The Space Review*, July 6, 2010.

<http://www.thespacereview.com/article/1660/1>

¹⁵ See, *America’s Future in Space: Aligning the Civil Space Program With National Needs*, National Research Council, 2009, p. 44.

¹⁶ See Union of Concerned Scientists Satellite Database. http://www.ucsusa.org/nuclear_weapons_and_global_security/space_weapons/technical_issues/ucs-satellite-database.html Of the 438 satellites owned by the United States as of August 2010, ownership is dispersed between the military, intelligence, other U.S. government organizations, civil and commercial sectors. Of those foreign –owned assets, many still provide service for the U.S. military and Americans in general.

Secretaries Perry and Schlesinger.¹⁷ While turning from unilateralism and an emphasis on space war to a new tone of internationalism and stability is clearly viewed by some as “weakness,”¹⁸ the Obama Administration, perhaps recalling that the 2009 Schriever V space wargame clearly demonstrated the need for allies and partners in times of conflict,¹⁹ is striving for less chest thumping and more cooperation.

Like it or not, the United States is not the only spacefaring nation. Other countries increasingly see space assets as requisite tools for success in a globalized world because of the information they yield. They are not willing to forego their ownership and use, and in fact are seeking to expand both. This is a reality the United States must acknowledge and deal with - as the 2010 policy does - rather than trying to discourage and hinder the use of space by others, as has been the case for those who see an increase in China’s space capabilities as inherently zero-sum for the United States. In other words, trying to maintain the status quo so that U.S. preeminence (or what some call dominance) can never be challenged is unrealistic. Whether other countries with, in some cases, rapidly maturing space programs

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– China, India, Iran, Brazil, and Nigeria, for example -- will be willing to step up to the challenge of acting as responsible spacefaring actors remains to be seen, but it is evident that the world is not willing to follow a leader who seems primarily self-interested.

Reasserting U.S. space leadership will pay important dividends on Earth. The United States unquestionably “leads” space activity based on sheer numbers of assets and the ability to use them. But when considering metrics such as United Nations’ voting coalitions on space issues, where the United States is often in a minority even against our allies, and the decreasing share of foreign satellite orders going to U.S. firms, U.S. leadership has been lacking for some time. The 2009 National Research Council report, *America’s Future in Space*, directly spoke to space enhancing U.S. strategic leadership on Earth.

Strategic leadership for the United States means thinking about the future in a way that sees beyond immediate and particularly American needs and policies – such as assuring access to resources or a temporary military advantage – and positioning the nation to help set an agenda for worldwide action. In considering both its own national interests and benefits to humankind, the United States should aim for more than immediate solutions to transitory problems and should find approaches that seek to shape the future.²⁰

Effectively re-asserting American leadership will help create a more stable and predictable environment in space and more realistically allow the United States to shape a secure and prosperous future.

¹⁷ Panel Discussion – The New National Space Policy: Prospects for International Cooperation and Mankind Safe Safer for All. July 1, 2010.

www.armscontrol.org/events/newnationalspacepolicy

¹⁸ Taylor Dinerman, “National Space Policy,” from Strength to Weakness, July 16, 2010. <http://www.hudson-ny.org/1417/national-space-policy-strength-weakness>

¹⁹ See articles reviewing Schriever V in *High Frontier*, Vol. 5. No. 4, <https://newafpims.afnews.af.mil/shared/media/document/AFD-090827-008.pdf>

²⁰ *America’s Future in Space: Aligning the Civil Space Program With National Needs*, National Research Council, 2009, p. 42

Using all U.S. Tools to Protect Our Space Assets

In admittedly simplistic terms, the United States has four basic categories of “tools” available to implement its policies abroad: diplomatic, informational, military and economic – sometimes referred to by the acronym DIME. Alone and in combinations, they represent the spectrum of U.S. power.

Since the end of the Cold War, however, “power” has become a much more complicated concept. No longer does power simply equate to kinetic, or “hard,” power deliverable by platforms that can be counted and countered. Joseph Nye coined the term “soft power,” though initially Donald Rumsfeld, then Secretary of Defense, said he didn’t “know what that means.”²¹ Walter Russell Mead distinguished between sharp power (military), soft power (cultural power, the power of examples), sweet power (values, culture, and policy, and setting the agenda) and sticky power (economic).²² At her Senate confirmation hearing, Secretary of State Hillary Clinton took these a step farther, calling for the United States to execute “smart power,” a combination of diplomacy and defense, to restore American power.²³ Clearly, the United States is preeminent in its hard, or

sharp, power capabilities. After the invasion of Iraq, the United States was viewed by much of the world as relying too heavily on the military sharp power tool, and as a first choice. But in a globalized world populated with transnational and non-traditional threats and challenges, not all are effectively dealt with by kinetic power. Increasingly, effective abeyance requires coordinated international efforts, and reliance on hard power and coercion is counterproductive if they alienate those with whom we must work to be successful.

All the tools of U.S. power must be available. The United States must be willing and able to use its sharp power if necessary, but it shouldn’t be the first or only option, and it may not be the best option. The 2006 policy states that the United States should “develop capabilities, plans, and options to ensure freedom of action in space, and, *if directed*, deny such freedom of action to adversaries.” The 2010 policy instead uses the language “develop capabilities, plans, and options to deter, defend against, and *if necessary*, defeat efforts to interfere with or attack U.S. or allied space systems.” The Obama space policy recognizes the potential for using hard power, but also recognizes that such use (and the debris it creates) could be damaging to U.S. assets as well, and so adjusts the tone to encourage cooperation, and opens the door to a greater use of diplomacy. That door, though rhetorically not completely slammed shut during the Bush years, had *de facto* been largely ignored.

What increased diplomacy will mean in practice remains to be seen and will

²¹ See: Joseph Nye, Jr. “Think Again: Soft Power,” *Foreign Policy*, March 1, 2006,

<http://yaleglobal.yale.edu/content/think-again-soft-power>

²² Walter Russell Mead, *Power, Terror, Peace and War*, (New York, New York: Alfred A. Knopf, 2004) pp. 24-25.

²³ Anne E. Kornblut and Glenn Kessler, “In Foreign Policy, A New Trio at the Top,” *Washington Post*, January 13, 2009. <http://www.washingtonpost.com/wp-dyn/content/article/2009/01/12/AR2009011203510.html>

not be without difficulties. What stance the United States will take at future United Nations Conference on Disarmament meetings and votes will be indicative. For many years the conference has pursued an agenda item called “Prevention of an Arms Race in Space” (PAROS). While the United States has since 2002 cast the only “no” vote against a resolution to establish a working group on PAROS, in 2009 it switched its vote to an abstention – a small but significant step in the right direction.

Additionally, another resolution, this one Russian-led, called “Transparency and Confidence-building Measures in Outer-space,” encourages states to submit concrete proposals on international confidence building and transparency measures to the U.N. Secretary General. While the United States voted “no” in 2008, it declined to participate in 2009, thereby allowing the resolution to be adopted by consensus.²⁴ The United States had previously been a consistent obstacle to furthering such cooperation. This obstructiveness had allowed China and Russia, the two countries which have set forth proposals for a treaty banning the use of weapons in space and the transparency resolution, to portray the United States as opposing peace in space and as perhaps its greatest threat. U.S. rhetoric, through the 2006 National Space Policy, and actions at the United Nations, made it understandable that other countries would accept this portrayal.

It is unlikely that the United States will (or even should) support a space

²⁴Paul Meyer, “US Space Security Policy: Still in Orbit or Commencing Re-entry?” unpublished assessment. July 2010.

weapons treaty. The United States generally has not been favorably inclined toward multilateral treaties in recent years, dating back to the Clinton Administration. Alternatively, Ben Baseley-Walker refers to the potential for “soft-law” options toward actions management.²⁵ This could include efforts such as Codes of Conduct, or Rules of the Road, which have drawn increasingly support from European countries, commercial organizations, and even from within the U.S. military²⁶ - indeed anyone seriously interested in protecting the space environment.

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The idea is that actors should and can learn to manage their actions toward a stable and sustainable space environment. When the United States tested an anti-satellite (ASAT) weapon in 1985 by destroying its Solwind satellite, and China tested its ASAT in 2007, neither explicitly broke any specific “rules” or laws.²⁷ But each

²⁵ Panel Discussion – The New National Space Policy: Prospects for International Cooperation and Mankind Safe Safer for All. July 1, 2010.

www.armscontrol.org/events/newnationalspacepolicy

²⁶See: Answers to Advance Questions for General Kevin P. Chilton, USAF, Nominee for Commander, U.S. Strategic Command. <http://armed-services.senate.gov/statemnt/2007/September/Chilton%2009-27-07.pdf>

²⁷Lawyers could argue that Article 9 of the Outer Space Treaty required consultations ahead of time for actions that could affect others’ space assets. It could also be argued that since the United States had observed prior Chinese fly-by tests and likely knew of the potentially upcoming impact test, it had a responsibility to warn others. As with all legal arguments, however, it is likely both arguments would be refuted as not applying for one reason or another.

created a substantial amount of space debris potentially dangerous to other spacecraft. The United States subsequently adjusted its manner of testing, as a matter of self-interest. China, after the rightful international condemnation it suffered consequent to its debris-creating 2007 ASAT test, seemed to learn as well. When China tested similar technology again in 2010, the test was characterized as a missile defense test and conducted more along the political and technical lines of what the United States did when it deliberately destroyed its malfunctioning USA-193 at a lower orbit, indirectly rather than explicitly testing ASAT technology, thereby avoiding both political condemnation and the creation of lingering debris.

As a matter of fact, China created the biggest space mess in history with its ASAT weapon in 2007, at the very time the United States was aiming for, or claiming, space dominance. That test deflated if not dispelled completely the idea that the United States could technologically protect its space assets by constantly playing defense better than anyone else could play offense. The Chinese quickly and harshly demonstrated both the ineffectiveness of bellicosity and the tenuousness of space dominance. It is possible to establish air dominance over a specific area for a limited time. The same is true for sea control. But unless the United States is willing and able to shoot down anything that anyone launches that we don't approve of, anytime and anywhere – and deal with the consequent creation of an orbital debris mess, to say nothing of potentially igniting a war – claiming dominance leaves the United States to

preach that others should “do as we say, not as we do.”

Implementation Complications

The single-most complicating factor in space policy stems from the vast majority of space technology being dual-use, over 90% by most approximations. The term “dual-use” has two equally important meanings: 1) that the same basic technology has applications in both the civil and military sectors, and 2) that it is often difficult to distinguish whether military space technology is intended for defensive or offensive use. Much of the world considers investment in dual-use technology a good investment since it can be used for multiple applications. The United States, however, with its more highly bifurcated civil and military programs than other countries (and with larger budgets), largely considers dual-use technology as an opportunity for countries like China, Iran and North Korea to develop military technology for nefarious use under civilian guise.

For example, imagery satellites are neutral in themselves; the way the imagery they produce is used - whether for crop rotation or targeting weapons - determines whether it is a civil or military asset, or in the case of, for example, the Japanese Information Gathering Satellite (IGS) system, both.²⁸ By some U.S. accounts, nearly all Chinese space assets are military, though often very similar

²⁸ Joan Johnson-Freese and Lance Gatling, “Security Implications of Japan’s Information Gathering Satellite System,” *Intelligence & National Security*, Issue 19/3 (2004).

technologically to U.S. civil programs. In another case, as long as the United States pursues missile defense, some countries will consider the United States as having an (offensive) anti-satellite capability because the technology is so well-suited for the ASAT mission. The self-congratulatory American media coverage after the successful intentional destruction of USA-193 basically confirmed that ASAT capability to the world. “The unprecedented downing of an errant spy satellite by a Navy missile makes it clear that the Pentagon has a new weapon in its arsenal – an antisatellite missile adapted from the nation’s missile defense system.”²⁹

Though space has long been militarized, the Bush Administration continued to assert that the Rubicon of actual space weaponry had yet to be crossed.³⁰ But dual-use technology blurs the line between militarization and weaponization considerably. While the Obama Administration has backed away from initial indications it would ban space weapons, it has encouraged instead other avenues for “actions management” - ways to distinguish between legitimate military uses of space and weaponization, or at least to discourage weaponization.

Strengthening measures to mitigate orbital debris, an example of “actions management,” is given a special nod as part of the stated 2010 policy goal of

“strengthening stability in space” through “domestic and international measures”³¹ and elaborated on in discussion regarding preserving the space environment.³² Ideally that might mean a treaty to prohibit certain debris-creating actions. Realistically, however, ratification of such a treaty would likely evoke a partisan battle in the Senate, framed as between those who want to protect national security and those who are willing to forego it for the sake of soft international goals. Bacevich sees the former group as supporters of an “Ideology of National Security” that allows American profligacy - and reality avoidance - to prevail.³³

Policy language that “The United States will consider proposals and concepts for arms control if they are equitable, effectively verifiable, and enhance the national security of the United States and its allies” could also present real difficulties in making that ideal occur, to the likely disappointment of many. Under what circumstances, for example, could a space treaty be considered verifiable? Though verification has long been considered a potential “stopper” for space arms control mechanisms, there are efforts underway to specify conditions for verifiability from both a political and technical perspectives.³⁴

³¹2010 NSP, p. 4.

³²2010 NSP, p. 7

³³See: Andrew J. Bacevich, *The Limits of Power: The End of American Exceptionalism*, (New York, Metropolitan Books, 2008), pp. 74-84.

³⁴See: Ambassador Roger G. Harrison, *Space and Verification*, Volume I: Policy Implications, Eisenhower Center for Space & Defense Studies, 2011; Dr. David Finkleman, *Space and Verification*, Volume II: Technical Assessment, Eisenhower Center for Space & Defense Studies, 2011.

²⁹ Marc Kaufman and Josh White, “Spy Satellite Downing Shows a New Weapons Capability,” *Washington Post*, February 22, 2008, A03.

³⁰ Although Baker Spring says in his July 6, 2010 *Webmemo* that “space has been weaponized since the dawn of the space age.”

Though still preliminary, it is heartening that discussion has begun rather than simply being assumed to be “too hard.” In the meantime, efforts for debris management, support for increased space situational awareness, and the fragile support for arms control indicate a more likely path toward actions management, rather than the creation of a legal regime that may not be able to be enforced anyway. Equally important, while the Obama Administration clearly wants to return U.S. space policy back to within mainstream international views, it must do so within domestic considerations. Politics is the art of the possible, not the ideal. Thus, while those who would support a treaty actually have a realistic view of the debris problem as one unsolvable by hard power unilateralism, a treaty is just as likely an unrealistic approach to solving it. Creativity will be at a premium.

JetBlue to Space?

A plethora of studies and commissions, particularly in the 1980’s and 1990’s, have looked at how to “fix” space, meaning how to more effectively utilize government resources and grow the space development field.³⁵ Fairly

³⁵See, for example, *Pioneering the Space Frontier*, the 1986 report of the National Commission on Space; the 1987 *Leadership and America’s Future in Space* generated by the first American woman in space, Sally Ride; the *Space Architect Study* done by DOD in 1988; the 1990 *Report of the Advisory Committee on the Future of the US space Program* (the Augustine committee); the 1991 *Synthesis Group Report* (the Stafford committee); the 1992 reports from the National Space Council and the Vice-President’s Space Policy Advisory Board, *The Future of US Space launch Capability*

consistently, findings fall along three general axes: lower launch costs, more cooperation between the civil and military space communities, and more commercial involvement. We have known the necessary goals for some time, yet all remain elusive. Since President Obama clearly intends to rely considerably on commercial space for achieving his human spaceflight plans, as became clear with the FY 2011 NASA budget request, more appears to be riding on this iteration of the expanding commercial space effort of “fixing space” than in the past. This pragmatic approach seems necessary as the U.S. human spaceflight program has, since Apollo, often been funded by unsupportable methods, somewhat analogous to using a Mastercard to pay off a Visa. So this, again, is an attempt at a realistic approach to an old problem.

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This pragmatic approach has not seen universal acclaim; the cancellation of the Constellation program brought American-hero astronauts Neil Armstrong and Eugene Cernan out from retirement to protest. They claimed the move was “devastating” to the space program and that Obama’s new plan was a “blueprint” to get to “nowhere.”³⁶ Their angst is understandable. It is like watching the

and *A Post Cold War Assessment of US Space Policy*, and the 1992 National Research Council report *From Earth to Orbit*.

³⁶Kathy Steinmetz, “Moonwalkers Defense Spaceflight at Senate Hearing,” *Time*, May 13, 2010. <http://www.time.com/time/nation/article/0,8599,1989024,00.html>

auto plants in Michigan close up and move to Mexico. But both candidates Obama and McCain realistically had to tell voters in Michigan that those auto manufacturing jobs weren't coming back. In the same vein, economic realities have left President Obama to tell disappointed space enthusiasts that the Constellation program was being cancelled. This is a particularly bitter pill to swallow during very difficult economic times, as jobs were subsequently lost in key aerospace states like Florida, Alabama, Texas and California. Nonetheless, the adage "only poets write strategy without a budget" comes to mind when retrospectively viewing the Constellation program from its roots in the 2004 Bush Vision for Space Exploration speech.³⁷ The reality is – as supported by the report of the 2009 Augustine Commission,³⁸ specifically created to advise the President on the human spaceflight program – Constellation, as it stood at the time of cancellation, suffered an irrecoverable ends-ways-means mismatch such as discussed prior. As the program stood, potential success was an illusion.

Based on the cancellation of Constellation and his speech in April 2010,³⁹ the Obama Administration appears to have largely heeded the advice of the Augustine Commission.

The commission recommended taking a flexible approach to exploration if significant budget increases were not forthcoming, which were not. Obama's epigraph at the beginning of the 2010 NSP says the United States' goals in space go beyond "a destination to reach." Coupled with the cancellation of Constellation, it is clear we are no longer racing the Chinese (back) to the Moon, a race we handily won against the Soviets in 1969, but in which we stood a good chance of losing this time around. Likely anticipating the outcry from those at a loss without destinations and timetables, however, it also states the United States will "begin crewed missions beyond the moon, including sending humans to an asteroid" by 2025 and "by the mid-2030s, send humans to orbit Mars and return them safely to Earth."⁴⁰ Clearly these were intended to reassure skeptics that the future of human spaceflight remained a priority. Personally, I think it was a mistake to include timetables for which there are no programs authorized or funding to achieve them. The political will to fund human spaceflight to a level commensurate for success within a timetable is unlikely to be any stronger for a new program than it was to fund Constellation. This is where (and why) the commercial sector is being counted on to step up.

That commercial, civil, and national security space sector guidelines for policy implementation are listed in the 2010 National Space Policy beginning with the commercial space sector and ending with national security space sector has been analyzed with

³⁷ Statement by Joan Johnson-Freese, Senate Hearing on Reauthorizing the Vision for Space Exploration, May 7, 2008. <http://www.spaceref.com/news/viewsr.html?pid=27924>

³⁸ Seeking a Human Spaceflight Program Worthy of a Great Nation, October 2009. http://legislative.nasa.gov/396093main_HSF_Cmte_FinalReport.pdf

³⁹ Kenneth Chang, "Obama Vows Renewed Space Program," *New York Times*, April 15, 2010. <http://www.nytimes.com/2010/04/16/science/space/16nasa.html>

⁴⁰2010 NSP, p.11.

Talmudic scrutiny. Those who consider space-related national interests as equating first and foremost to the national security space sector have cited that ordering as indicative that national security has been subordinated to arms control in this NSP.⁴¹ Government strategies are intended to be in alignment like “nested” Russian dolls, one fitting within the other. If the NSP is nested within the National Security Strategy (NSS), as is likely and intended, then the space sector prioritization is not really surprising. While the 2006 NSS began with the words “America is at war,”⁴² clearly and unequivocally focusing America on the fight against terrorism, the Obama NSS begins with a note of change.

Time and again in our nation’s history, American’s have risen to meet – and shape – moments of transition. This must be one of those moments. We live in a time of sweeping change. The success of free nations, open markets, and social progress in recent decades has accelerated globalization on an unprecedented scale. This has opened the doors of opportunity around the globe, extended democracy to hundreds of millions of people, and made peace possible among the major powers. Yet globalization has also intensified the dangers we face – from international terrorism and the spread of deadly technologies, to economic upheaval and a changing climate.⁴³

The importance of national security is not downgraded, but it is being defined more broadly and realistically. In terms of space, “change” means attempting – and I say attempting in recognition of past efforts – to bring space development to a path more similar to other areas of high-tech development rather than the anomaly it has been. Whereas airplanes and computers required government investment as seed money to then (relatively quickly) allow a commercial sector to flourish, in human spaceflight, the tipping point for the commercial sector to overtake government efforts has yet to occur. More than fifty years after John Glenn orbited the Earth, the government still controls tickets to space much differently than passengers booking a ticket on Jetblue, an aberration in an era of globalization.

Globalization has meant that capabilities like high resolution imagery, once available only to security communities in a very few countries, are now available on the commercial market. Globalization also means that countries are connected in ways that change how they can act and react in shaping and coercing the actions of others. Ben Baseley-Walker illustrates that point well when it comes to space. “If, for example, the United States blows up a Chinese satellite, what would I do if I were sitting in Beijing? Would I go and launch a missile at an American satellite? No, I would crash the dollar.”⁴⁴ Space is a different venue

⁴¹See: Baker Spring, “Obama’s National Space Policy: Subordinating National Security to Arms Control,” *Webmemo*, The Heritage Foundation, No. 2950, July 6, 2010.

⁴²<http://georgewbush-whitehouse.archives.gov/nsc/nss/2006/>

⁴³http://www.whitehouse.gov/sites/default/files/rss_viewer/national_security_strategy.pdf

⁴⁴Panel Discussion – The New National Space Policy: Prospects for International Cooperation and Mankind Safe

than it was during the Cold War when governments controlled all assets, and hard power ruled the day.

Despite the best attempts of some entrepreneurs, human spaceflight has remained largely the purview of governments. Some of those best attempts have taught investor billionaires that space is an arena where large fortunes can quickly become small ones. PayPal founder Elon Musk got into the space launch business and founded the SpaceX Corporation, subsequently saying: “I want to be able to make sure that we have enough capital to survive at least three consecutive failures. If you want to make a small fortune in the launch vehicle business, start with a large one.”⁴⁵

Where the Obama policy offers new hope for the heretofore unattainable goal of commercial viability is in its definition of the commercial sector, including the omission of a previously laudable but unrealistic parameter. According to the NSP, commercial space “refers to space goods, services, or activities provided by private sector enterprises that bear a reasonable portion of the investment risk and responsibility for the activity, operate in accordance with typical market-based incentives for controlling cost and optimizing return on investment, and have the legal capacity to offer these goods or services to existing or potential nongovernmental

customers.”⁴⁶ A major change in this policy is the removal of a clause forbidding direct subsidies for commercial space, a ban included in both the Bush and Clinton policies. The apparent intent is to move U.S. commercial space activities onto a level playing field with most other spacefaring nations. Is the Ariane rocket, for example, marketed through Arianespace, a commercial space venture? It is certainly categorized as such within the international launch market, but the majority of shares are owned by the French government.⁴⁷ The French government also invested heavily in its development. The United States appears to be moving in the direction of this model, which other countries have long utilized. Again, there is no guarantee that the commercial sector will step up to the challenge, but trying to change the status quo model to a more realistic and sustainable approach over the long-term is laudable.

From Muddling Through to a Realistic Approach?

It has been apparent for some time to those who scrutinize space budgets and timetables that a day of reckoning was coming, sooner rather than later. That day has arrived. In human spaceflight and exploration, you get what you are willing to pay for. Without a viable commercial sector, it is largely up to the American public, through their Members of Congress, to decide what

Safer for All. July 1, 2010.

www.armscontrol.org/events/newnationalspacepolicy

⁴⁵<http://www.evancarmichael.com/Famous-Entrepreneurs/1610/Elon-Musk-Quotes.html>

⁴⁶2010 NSP, p.10.

⁴⁷The French space agency, Centre National d'Études Spatiales (CNES), owns 32% of Arianespace. <http://www.arianespace.com/about-us-corporate-information/shareholders.asp>

they need, in accordance with what they want to spend.

While there are those in Congress who are angry and vocal over the cancellation of Constellation (including the loss of jobs in many of their districts) it must be remembered that Congress can always reallocate funds into the space budget if there really is enough political will to do so. In the early years of NASA, Congress provided more money than the agency requested in their eagerness to counter Soviet space achievements. Today, however, with competition for federal funding running the gamut across social welfare programs, job stimulus programs, on-going war efforts, domestic infrastructure, the environment, education, health care and more, human spaceflight will likely find itself with more rhetorical support than actual funding.

The President has said space is a vital interest of the United States, but there are finite resources to meet infinite possible interests. Though rhetorically supportive, the American public largely sees space exploration and development as admirable, but more expendable than schools, roads, health care, tax cuts and other priorities.⁴⁸ The Obama policy sets a way forward to try and achieve realistic goals within realistic budgets. It will require unprecedented levels of cooperation

⁴⁸“50% Favor Cutting Back on Space Exploration,” Rasmussen Reports, January 15, 2010. http://www.rasmussenreports.com/public_content/lifestyle/general_lifestyle/january_2010/50_favor_cutting_back_on_space_exploration; Darren K. Carlson, “Space: to Infinity and Beyond on a Budget,” August 17, 2004. <http://www.gallup.com/poll/12727/space-infinity-beyond-budget.aspx>

with other countries and reform of Cold War-era, ham-fisted, complicated export control laws to allow the United States to work with other countries and revitalize its competitive place in the international

aerospace market.⁴⁹ The illusion that we can defend space technology exclusively with technology has been debunked

and overcome by events, specifically the 2007 Chinese ASAT test. Yet whether the Obama Administration has the political capital to push the execution of this policy forward, and the political will to spend that capital on this issue, remains to be seen.

Recognizing and choosing a new path forward, one perhaps less “visionary” in the short term, could be more realistic in the long term. The auto manufacturing jobs are not coming back to Michigan and Ohio, and the United States is not going to be standing on the Moon in 2020. But resistance to change will still be strong.

Already there are signs that short-term, muddling-through advocates will not give up easily. The Senate Committee on Commerce, Science and Transportation unanimously agreed in July to an authorization bill plan to cut Constellation, but initiate development of a heavy-lift rocket in 2011,

The Obama policy will require unprecedented levels of cooperation with other countries.

⁴⁹See: Joan Johnson-Freese, “Becoming Chinese: Or, How U.S. Satellite Export Policy Threatens National Security,” *Space Times*, January-February 2001; Joan Johnson-Freese, “Alice in Licenseland: U.S. Satellite Export Controls Since 1990”, *Space Policy*, August 2000.

potentially to be ready for use by the end of 2016. Again, politics being the art of the possible, that compromise provides jobs in aerospace states for politicians and near-term action for those who demand them. Not surprisingly, the money to start work on the heavy-lift vehicle will not be new money, but will be sliced from funds the administration proposed for developing new space technologies and commercial efforts. Also, since the Senate bill only covers the next three years, it is unknown what will happen after that.⁵⁰ So again, funding problems have not been realistically solved, just put off for somebody else to deal with.

There will be those who will resist change in time-honored ways: slow-rolling, dwelling on difficulties with past change efforts (just too hard), magnifying risks, and pointing out potential personal power impacts. Baker Spring warns against arms control agendas that “effectively circumvent the Senate’s constitutional role in consenting to the ratification of international agreements that should be concluded as treaties.”⁵¹ While certainly not advocating a treaty, he also objects to anything short of a treaty (such as a Code of Conduct) - effectively reinforcing the “status quo” - by cautioning the Senate that its power could be circumvented. Additionally, there are those in government and in Congress especially (on both sides of the aisle) who will oppose any sort of cooperation with

China on ideological grounds.⁵² There are also those who will oppose the NSP on simple partisan grounds. But the time for profligacy is over, and the time for renewal and reality-based decision-making is here.

Those who have been pushing for the United States to move toward space dominance, to include the development of space weapons, under the guise of offensive-defensive capabilities or any other guise, will just have to try to wait out the President. While President Obama will likely not ban them, he also is unlikely to promote them. There are parallels in the space sector to that of the nuclear sector – where the President has said he wanted to move to “zero” but has found the path there strewn with political compromise and efforts by nuclear modernization stalwarts to “hold on” for the future. Space weapons advocates will likely do the same.

The 2010 NSP offers a blueprint for renewal rather than a blueprint back to the Moon, or a space battle plan. The challenge for NASA is to develop – quickly – innovative, affordable and, yes, inspiring, plans to take America forward in human and robotic space exploration. The commercial sector’s challenge will be not only to facilitate NASA’s plans, but also to innovate and implement plans of their own to go beyond NASA and truly develop space. The challenge for the military is to protect space as an environment for use by all, but especially the United States, without relying on potentially

⁵⁰Kenneth Chang, “Senate Committee’s NASA Plan Cuts Moon Program,” *The New York Times*, July 15, 2010.

⁵¹Baker Spring, “Obama’s National Space Policy: Subordinating National Security to Arms Control,” *Webmemo*, The Heritage Foundation, No. 2950, July 6, 2010.

⁵²See comments in: Peter J. Brown, Asia takes stock of new US space policy,” *Asia Times*, July 16, 2010. <http://www.atimes.com/atimes/printN.html>

counterproductive, debris-creating, extremely expensive and technically unfeasible hardware. Taking up these challenges will yield not just benefits in space, but benefits regarding U.S. strategic leadership on Earth and in international security. The new blueprint offers new technical goals and opportunities ahead, and the revitalization of our strategic leadership. All are realistic goals worth pursuing. If we ignore them in favor of short-term, status quo approaches, it will ultimately be at the peril of U.S. national security.