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## SPEECH FOR THE 2008 NATIONAL SPACE FORUM

Jane Harman

*Representative from the 36th District of California, jane.harman@edu.edu*

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## **SPEECH FOR THE 2008 NATIONAL SPACE FORUM**

**Representative Jane Harman**

*Representative Jane Harman is from the 36<sup>th</sup> District of California*

As many of you probably know, my Congressional district in Southern California is home to the Space and Missile Command – the arm of the Air Force tasked with developing and procuring the space assets that give America its eyes and ears in space.

It's also the best Congressional district in the country. We are the place for sun, surf, and satellites – the only place in America where aerospace engineers have tans!

Thousands of these engineers are my constituents. And over the years, I have gained a deep and abiding respect for both the importance and difficulty of what they do.

We ask them to construct an amalgam of circuits, wiring, sensors, and fragile structures that must survive unimaginable rigors of launch and harsh conditions of outer space, with scant possibility of repair, and perform flawlessly for years. And we place the technical responsibility for carrying out core functions of the government – from communications to intelligence to operations – in their hands.

There is very little margin for error.

Given those stakes, SMC and the industry it helps lead have amassed an impressive record in recent years. We haven't had a launch failure nearly a decade, 56 in a row and counting. General Mike Hamel at SMC deserves a lot of credit for this success.

But we shouldn't spend too much time patting ourselves on the back. We have some big challenges ahead of us.

You've just heard from my colleague Terry Everett about the budget the President released this week. Terry and I have worked closely together on the Intelligence Committee and the Space Power Caucus.

I want to keep my remarks today focused on the big picture. My thesis is that the Administration and Congress have been snoozing. Seven years after the Rumsfeld Commission Report, which highlighted our critical dependence on space, and more than one year after the Chinese ASAT test, we have no strategy.

Although China knew the orbit of its satellite, the ASAT test nonetheless amply demonstrated its capability in space.

The ASAT test put the spotlight on our Achilles heel. Our space assets, particularly those in low earth orbit (or LEO), are vulnerable.

The test also increased the amount of space debris orbiting the Earth by about 20 percent, potentially threatening satellites in LEO for decades, if not longer.

The tacticians will focus on China – spinning out scenarios for ASAT attacks during a conflict in the Straits of Taiwan. Those scenarios are certainly worthy of our careful study.

But this isn't a China-specific problem. The media has reported that Russia has had ASAT abilities for years. Other nations also have demonstrated the ability to disrupt or degrade our use of space assets. And it will not be too difficult for these nations to develop more effective ASAT capabilities in the coming decades.

The problem is not a short-term hiccup in an otherwise solid plan. It is a long-term strategic vulnerability that needs to be addressed now. China's test was a very urgent wake-up call.

But we pushed the snooze button. In the year-plus since the test – and about a year since Sen. Kyl and I discussed this topic at CSIS – the United States government has done almost nothing in response.

I would have expected an Administration that warned of a "space Pearl Harbor" in the 2000 elections to have made a greater effort to protect us against the threat.

To be fair, none of the major candidates for President has addressed such the threat either.

Our space acquisition budget reflects this lack of a strategy. We behave like kids in a candy store.

The Administration pursues "desirements" – technologies that would be great to have but are not of the utmost importance. Not coincidentally, some of these projects are staggeringly expensive and entail enormous risk.

Recent procurement and operational failures should come as no surprise.

Our new President – whoever she or he may be – should come into office with a strategy in hand. But we need not wait for a new Administration. The sooner we start this process the better.

The Administration's 2006 policy statement sets general goals, not a strategic vision. It needs fleshing

out. And the new President may have a different vision.

But we can surely agree that one key policy goal be to maintain our leadership in space for decades to come. And to do that, we must be able to counter the threat posed by ASAT technologies.

As policy makers, we in Congress don't have the luxury of just throwing stones – though we often forget this. We have to offer constructive suggestions.

Here are mine.

In my opinion, any comprehensive strategy to preserve our leadership position in space must include five elements: intelligence, defensive measures, redundancy, risk mitigation, and export control reform.

First, we need to understand the motivations of adversaries. Why did China conduct the ASAT test? Was China attempting to send the United States a message? Is it announcing its intent to become a global strategic rival? Or, as many believe, is its focus primarily regional?

The same questions can be asked of Russia and other nations. What are their capabilities and intentions in space and how do they impact our interests?

Those answers are relevant to our strategy. If China is primarily interested in intimidating Taiwan, we have some time to adjust to their newly unveiled capabilities. If, however, they intend to develop space capabilities to rival ours, time may be short.

Intelligence is a priority. Congress may want to consider asking for a National Intelligence Estimate on the test and potential threats to our position in space.

We should also talk to the Chinese, in much the same way that we spoke to the Soviets during the Cold War.

I was heartened to hear Defense Secretary Gates speak about enhancing military-to-military contacts with China. These sorts of exchanges can not only help us better understand China's motivations, they can help avoid the misunderstandings that can lead to a more confrontational relationship.

Gates' model is the strategic dialogue between the US and the Soviets during the Cold War, which was key to preventing miscalculations.

Second, we should employ defensive measures in space, and harden our ground assets.

I can't discuss the specifics, but it is widely known that we have the technology to protect key assets against certain kinds of non-physical attacks – particularly attacks that use electro-magnetic pulses (or EMPs).

We need to think “out of the box” to find other means to protect our satellites from attacks.

We should incorporate this technology not only into all new military and intelligence satellites, but in some commercial satellites as well.

But we shouldn't expect miracles. These technologies can't harden a satellite against kinetic kill vehicles, like the missile China used in its test. We also can't retrofit assets that are already in space.

We sometimes forget that our space assets are only part of the equation. We depend on ground infrastructure to make those assets work.

That infrastructure is vulnerable to all kinds of physical attacks like car bombs, electro-magnetic attacks, or (like much of our government's information technology backbone) cyber attacks.

If the United States is ever in a war with our space assets under attack, you can count on attacks on our ground-based space infrastructure as well.

Securing those facilities must therefore be a top priority.

But we are unlikely to stop every attack or sufficiently protect every space asset. To protect core capabilities, we must build redundancy into our overhead architecture – my third suggestion.

We should have multiple assets available to do the same job. That is already the case with certain programs, like GPS. We can afford to lose a few GPS satellites without losing much capability.

LEO satellites (like China's weather satellite) are particularly vulnerable.

Using higher orbits – particularly geosynchronous (or GEO) orbits – for more assets that we currently keep in LEO can help protect our capabilities.

Not all of these redundant assets needs to be in space. We can keep some of the satellites on the ground if we have the capability to get them into space quickly and at a reasonable cost.

This, of course, is the idea behind operationally responsive space (or, ORS). We have begun to invest serious time and money in ORS, and there are some brilliant rocket scientists working in this area. And yes, some of them are constituents!

The potential of ORS is not yet fully realized, as even its biggest proponents will admit. But that potential can be reached if we sustain our commitment and our funding.

Redundancy will not be enough, however. There are only so many satellites that the US can afford. We must therefore mitigate our risk by enhancing our cooperation with civilian imaging and communications assets, and those of our allies – the fourth element of my strategy.

The capabilities of commercial imaging and communications satellites have grown by leaps and

bounds in recent years. They can serve many of our military needs.

Of course, we already make extensive use of civilian and ally assets. During the Iraq war, for example, the US military used 2.4 gigabits of bandwidth per second – and over half of that communications capacity came from commercial sources.

But there is room to grow, particularly in the use of commercial imaging products.

We should consider relaxing current restrictions on resolution. Many civilian imaging satellites can achieve amazing clarity, and with a few changes can provide imagery close to what our military planners are used to seeing.

Enhanced cooperation would have the added benefit of supporting our space industrial base. The more we use these private companies, the more we enable them to grow, developing the industrial base and developing capabilities that the US government can use.

We will also help provide employment for more aerospace engineers. As I have said many times, rocket scientists do not grow on trees.

Fifth and finally, we should fundamentally reexamine our approach to export controls.

Restrictions on the space technologies companies can export have had the perverse effect of encouraging other nations – like China and India – to develop their own indigenous technologies.

Rather than buying or renting technology built by American companies that are subject to American law, we have given these countries the incentive to figure it out on their own.

These nations have gained their own strategically important industries, denying us a lock on cutting-edge technologies.

A more balanced – and I believe, more targeted – export regime is essential.

I'm not ruling out the possibility of some form of multilateral or bilateral agreements, perhaps to preclude the debris-causing sort of test that China conducted last year.

An informal code of conduct that sets norms of behavior for space-faring nations could be particularly helpful in restraining reckless behavior like last year's test.

History has shown that multilateral diplomatic pressure – peer pressure, if you will – can be very effective in setting norms for space.

But we should be realistic about what formal agreements can achieve. Identifying which programs are covered is a challenge, and it could be almost impossible to verify compliance.

We should also mind our words. Using needlessly provocative language is foolish. Our current space capabilities are no match for any other nation, even given China's test.

Given that advantage, we would have much to lose in a space arms race, in which other nations have the excuse to invest in offensive capabilities that go far beyond kinetic kills in LEO.

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These five suggestions could form the core of a space strategy.

It's time to wake up, get focused, and implement a comprehensive strategy to protect our position in space.

We snooze at our peril.

