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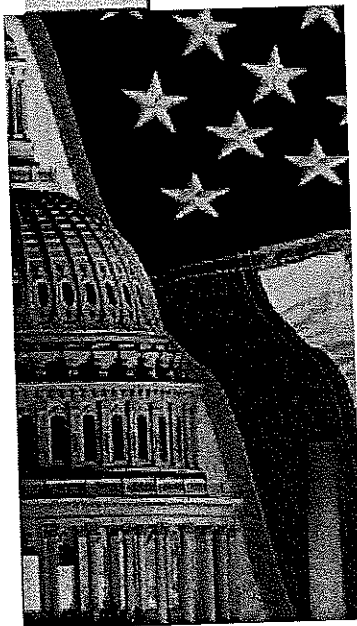
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Executive Presentations

Ronald D. Sugar addressed the National Press Club in Washington, D.C.



Ronald D. Sugar
Chairman, CEO and President
Northrop Grumman Corporation

On Tuesday, February 15, 2005, Northrop Grumman Chairman, CEO and President Ronald D. Sugar addressed the National Press Club in Washington, D.C. Below are his delivered remarks.

Why Transformation Must Succeed

Thank you all very much.

It's great to be back at the National Press Club and see so many familiar faces. The last time I was here, in 2003, Northrop Grumman had just acquired TRW. It was the capstone acquisition in a decade-long strategic transformation of our company, designed to place us firmly at the forefront of military transformation.

I said then that the reason we were changing was to align our business activities with the emerging needs of our government customer. And everything that has happened in the intervening years has tended to validate the choices we made.

As you know, the Department of Defense is presently putting together its Quadrennial Defense Review, known as the QDR for short. That review will provide the intellectual and strategic framework that will shape our nation's defense capabilities for many years to come.

Now, the QDR is very much a work in progress. But I can say that we at Northrop Grumman are particularly heartened that from all indications this administration remains committed to its ambitious, forward-looking agenda to carry on military transformation. That, to me, is the overriding message coming out of the review process and also the President's recently released budget.

I know there is a lot of interest in the president's FY 2006 budget, and I'll be glad to answer any questions you may have in the Q & A session. But if I were to leave you with just two takeaways on the budget they would be these:

- First, the administration is proposing not to cut, but rather to slow the rate of increase in the military budget.
- Second, if you look closely, what becomes clear is that those programs essential to transformation have been preserved.

In fact, I would say that this budget is but the latest installment in this administration's consistent commitment to transformation from day one.

Naturally, as our nation increases the resources we must devote to the on-going war on terror, we will see some shift in priorities. But because we at Northrop Grumman have been in the transformation business ourselves for over ten years now, we feel that we're agile enough to respond to the priorities our customers and Congress do set.

It's become second nature to us – a part of our culture – to embrace change. Change is part of our mission - which is to look to the future, determine what our nation's defense needs will be, and provide the systems and capabilities that will meet those needs.

So that's what I'd like to do with you right now.

I can't cover the whole field. But what I want to do today is take a look beyond the immediate horizon and examine three core problems that transformation must succeed in achieving.

- The first is coping with unconventional adversaries. The ongoing terrorist insurgency in Iraq is an all-too-present example of that problem.
- The second is securing the American homeland against terrorist attack.
- And the third is dealing with failed, nuclear-armed states and an emerging peer competitor.

So let's talk first about the unconventional threat.

I think all Americans were thrilled at the scenes of jubilant Iraqis participating in a democratic election for the first time in half a century. We can only admire the extraordinary courage of ordinary men and women risking their lives to cast their vote – a vote not just for a slate of candidates, but a vote for freedom.

And I know we all feel an intense pride for the members of our armed forces, and the sacrifices of life and limb they are making every day to bring freedom to a distant land. But there is no denying that it has been a task fraught with terrible difficulties. And as the first stage of battle in Iraq turned into a long struggle against a terrorist insurgency, I think many Americans have been dismayed to see our soldiers and marines engaged in house-to-house combat reminiscent of World War II.

For some, this has led to a wholesale questioning of transformation. What good is all this high technology, some have asked, if it all comes down in the end to a simple, dirty, street fight? What we need instead, the skeptics say, is more boots on the ground.

The final decision on troop numbers is up to our military and civilian leaders, and I don't pretend any expertise in this area. But I would suggest that those who contend that the brutal street fighting in Iraq is an argument against transformation have it exactly backwards.

I think every American would agree that those whom we send in harm's way deserve every possible advantage we can give them. And, let's face it, aside from the sheer bravery, skill and decency of our highly trained forces, our nation's greatest strength is its technological know-how. Instead of giving up and accepting a World War II Stalingrad paradigm of house-to-house combat, we need to apply the principles of transformation to what the military calls the "400-meter close combat fight."

Our imperative must be to provide the same asymmetric advantage we now have on the broader battlefield to our troops in the streets and alleyways of Baghdad, Fallujah or wherever they may be.

We don't want our soldiers to have to face insurgents in a fair fight. We want to be able to see the enemy when he can't see us. We want to neutralize the enemy's ability to cause harm, while increasing by many orders of magnitude our ability to root him out from his hiding places and destroy him. That means:

- Precision strike against individual enemy combatants in addition to mass forces.
- It means the ability to project force around corners and into hard-to-reach places.
- And it means battlefield sensor networks that give our soldiers total, situational awareness to uncover road-side bombs and reveal enemy movements and positions.



I have tasked some of the best minds in my company to push forward our work in a wide spectrum of technologies that will take transformation to the street level. I know many of my colleagues in the defense industry are embarked on similar projects. Some of these – such as special robots being used to counter terrorist bombs – are already being deployed. Some are still in the visionary, “what-if” stage. Some we can’t talk about.

This is still very much a work in progress. But let me give a couple of examples we can talk about. One technology with the potential to transform the 400-meter street fight, as it does warfare in general, is directed energy weapons – specifically lasers. Laser weapons aren’t Buck Rogers weapons anymore. They’re becoming a reality. Almost every day, our troops face mortar, rocket and sometimes artillery fire from insurgents. What if we could shoot down those incoming shells and rockets in the air before they take their deadly toll?

Over the past four years, the U.S. Army has successfully demonstrated such a capability at the White Sands Missile Range, shooting down salvos of rockets and artillery shells using the Northrop Grumman Tactical High Energy Laser Testbed. We are working on delivering within the next year-and-a-half an operational prototype for Army testing.

Another project we’re working on is the Ground-Based Fighter Radar. It’s basically fighter aircraft radar, – in fact it’s an active electronically scanned array radar – mounted on a Humvee. It will give our soldiers on-the-move, 360-degree coverage that can detect incoming rockets, artillery, and mortar rounds, and also provide air surveillance. And there’s a program we’re testing that connects our soldiers to low-flying unmanned aircraft, enabling them to see around buildings or even through windows in real time.

So there are several examples of “taking transformation to the street fight.”

The next reason transformation must succeed is that it’s not just about the ability to fight wars abroad or in the streets – it’s about protecting our homeland, too. This wasn’t true with old “Cold War” force structures of massed troops and tanks. It’s different today. In fact, it’s reported that one of the four key strategic issues Secretary Rumsfeld wants examined in the QDR is the military’s role in homeland defense. The fact is many of the technologies that are transforming the battlefield are all directly translatable to homeland security, as well. For example:

- The persistent coverage of a future Space-Based Radar – combined with air-breathing sensor platforms such as Global Hawk – can give us unprecedented situational awareness of our borders and of our maritime domains around our nation.
- In fact, the medium-altitude Hunter unmanned aerial vehicle on duty in Iraq has already been effectively demonstrated on patrol of our southern border.
- The new E-10A aircraft, successor to Joint STARS, with its advanced radar and battle management command-and-control functions, could identify and track cruise missiles flying toward our homeland.
- And the infrared laser countermeasure systems now defending many of our military aircraft in Iraq could also protect our civilian airliners against terrorists with shoulder-fired antiaircraft missiles – all for the cost of an in-flight entertainment system.

But transformation isn’t represented by any one platform or system. Transformation, at its core, is about intelligent information networks, with sensors as their eyes and ears and computers as their brains. Networks that can identify critical information – and push out that information to those who need to know it, when they need to know it.

Let me give an example of what I mean on a very small scale. It’s a new system my company has developed called AlertVideo. The sensor for this system is simply a video camera. But it’s attached to a computer whose special algorithms can identify anomalous behavior – say a suitcase left unattended too long in an airport terminal – and with those algorithms can determine to alert the guards on the floor.

Or, another example, imagine an urban landscape with a proliferation of low-cost sensors of various kinds that can detect the presence of explosives, as well as radiological,

chemical or biological weapons. In the case of a chemical weapons release, stand-off infrared sensors would identify the poisonous vapor, while the computer brain would use wind and temperature data to predict the path of the deadly cloud. A reverse-911 system would then provide telephone warning to every apartment, home and office building in the cloud's path, while traffic lights could automatically be changed to route cars away from the danger zone. The technologies to do this exist today. We have now reached a point in the information revolution where intelligent networks, such as the one I described, can create a web of ever greater safety and security for our citizens.

So protecting our homeland is another area in which transformation must succeed, and I believe can succeed if we put our minds to it.

The third problem I want to address today is dealing with failed nuclear states and emerging peer competitors.

Let me start by suggesting that the ultimate objective of transformation, or any kind of defense preparedness, isn't to fight and win wars. As the Chinese general Sun Tzu observed two thousand years ago, the essence of strategy is not in fighting and winning, but in winning without fighting. The ultimate goal is to deter bad behavior on the part of those who would harm us so that we don't have to fight wars in the first place. The kind of future force we create can help provide that deterrent. It can help influence the decisions of our potential adversaries and shape them in the right direction. Let me give you three examples:

- First, on offense, a more potent long-range precision-strike capability. Such a system could be based on a future combination of unmanned bombers and hypersonic suborbital vehicles.
- A second deterrent, this one on defense, will come from a layered missile-defense system with a high probability of stopping ballistic missiles. Key to this layered system would be the deployment of the boost-phase kinetic energy interceptor. Such a system will greatly reduce the incentive for rogue nations to invest in such a destabilizing ballistic missile technology in the first place.
- And third, a combined offense and defense approach, which would be an employment of both interceptors and offensive missiles, supported by space-based and ground-based sensors enabling us to rapidly counter-strike in the event of an attack. Such a system would make deterrence even more robust and complete.

A weakened U.S. presence around the globe invites adventurism and aggression. It excites the fevered dreams of despots and alters the calculus of power to the detriment of peace. We have seen time and again over the last century that credible American power is the necessary pre-condition for international stability. To be credible, that power must be global in reach. And it must provide superiority in all domains – on land, in the air, in space and on the seas.

Allow me to focus on just two of those domains: space and the seas.

It is clear from the president's budget that this administration understands the absolute centrality of space to transformation. The most destabilizing factor in international relations is surprise. It is only from space-based sensors that we can achieve the kind of persistent, global surveillance that will allow us to keep track of enemy movements, to detect escalating armaments, or even the launching of ballistic missiles. Again, Space-Based Radar will be an essential program in this transformation.

Space is also the connector, the unifier of all our other global assets. In the future, advanced transformational communications, including laser communications, will create a secure broadband Internet in the sky. All the future capabilities we demand – situational awareness, precision strike, and, as I mentioned, persistent surveillance – will demand that kind of transformational connectivity. And they are all enabled by space. Space, it is often said, is the ultimate high ground. If we don't control it, if we don't defend it, we will be challenged there.

Now, let me turn to my attention to the seas. As you know, the seas cover three-quarters of

the world's surface. They carry over 90 percent of international trade in tens of thousands of large vessels. The seas provide the vital bridge to our friends and allies in Europe, Asia, Africa and South America.

At this point, we enjoy unchallenged dominance of the seas. And that is not an accident. Today, when we decide we need to be somewhere, we don't ask permission; our Navy just goes. And that dominance of the oceans is the absolute prerequisite for a stable, peaceful world of free trade and strong alliances among free nations.

There is much discussion today about what the right size of our Navy should be. There is a lot of pressure to reduce the number of our ships. Ultimately, of course, that, too, will be the decision of our elected representatives. But I do know one thing: A great nation needs a great Navy. And a great Navy will need ships made more capable by cutting-edge technology.

The new destroyer called DD(X), for example, is more than simply another ship. It is the Navy's first clean-sheet-class of surface combatant since the end of the Cold War. It embodies new technologies such as electric-drive propulsion, dual-band radar, an advanced gun and missile launch system, advanced composite structure, and stealth: It will destroy more targets at greater ranges with fewer munitions and less crew than any warship in history. It will transform our surface combatant force and ensure that no potential peer competitor will ever be tempted to try to evict us from any region of the globe.

The new DD(X) destroyer will also lead to a new cruiser, called CG(X), which will enable sea-basing of the Kinetic Energy Interceptor, a crucial component of our nation's layered missile defense system.

Dominance of the oceans also requires supremacy under the sea. Submarines such as the new Virginia-class are the ultimate stealth weapons. And they provide a huge deterrent to those seeking mischief.

Having new ships with transformational technology will be necessary, but not sufficient, to ensure control of the seas. For while it is true that technology will enable us to do more with each ship, it is also true that there is capability in numbers. We must not allow our Navy to atrophy. The oceans, after all, are wide, and the world is a big place.

Let me now conclude my prepared remarks by simply noting that transformation is not done - it is only in the beginning stages of what it can accomplish, given the national will to see it through. It can help us take the fight to the street, giving our soldiers an asymmetric advantage against their foes. It can make our homeland safer. And it can help us deal with rogue states with nuclear weapons and future peer competitors.

That's why I believe the vision of transformation must succeed.

It is about providing a framework of strength and stability that will allow freedom to spread....creating a widening circle of democracy and peace. Our nation's security ultimately lies in that spread of freedom, and the peace it will bring.

Thank you very much.

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