**32nd Air Force Association Air Warfare Symposium and Technology Exposition**

The Honorable Deborah Lee James
Secretary of the Air Force
Friday, 26 February, 2016

Now that's air power and I got me some. [ applause ]

Good morning, everybody. [ laughter ]

Good morning to all of our MAJCOM commanders and we have senior Air Force civilians here with us today. Our civic leaders, it's always a pleasure to be with you. Welcome to our international allies and partners and of course many, many industry leaders are in attendance.

A special good morning to several phenomenal, and I underscore the word phenomenal, Airmen, of course my wingmen in all that I do, Chief of Staff of the Air Force General Mark Welsh. Good morning Chief.

Two other fantastic wingmen I want to give a quick shout out, General Spencer and his much better half, Ora Spencer. It's great to see you guys. Fantastic that you continue to serve our Air Force in this new capacity through the AFA. And incidentally to everybody in the AFA who work so hard, who always work so hard on our behalf, but most especially to put together this first rate symposium here in Florida. Global precision attack, no one does it better than the Air Force and no one does it better than the Air Force Association. So thank you to all of you as well.

Special thanks to the Air Force Association for hosting this symposium in Florida.  Global Precision Attack—No one does it better than the Air Force!

And then finally and most importantly good morning to all of our Airmen in the audience and not only in the audience, good morning to the Airmen around the country and, around the world who may be watching these proceedings via live stream. Now wasn't that a fantastic video, every cool secretary of the air force has to have an introductory video and this was mine. And I’m kind of excited about it and I want to give a shout out to one Airman, because we have been highlighting terrific Airmen throughout this symposium, and I would like to add one more, my I ask you to join in me in a round of applause for

Technical Sgt Jessica Wolter, from our Public Affairs team, I hope she's watching via live stream, thank you for creating this fantastic video about air power. [applause ]

You know there's debates about many things in my AOR named Washington DC, but there's no debate about one thing and that one thing is that the United States Air Force's ability to hold targets at risk from the air has revolutionized warfare. And we've shown this repeatedly throughout modern history.

First in the early 1950s, the Soviet Union emerged as a formidable adversary with a massive, massive conventional force and to counter that Soviet strength our nation developed a nuclear deterrence strategy, and many refer to that era, refer to that strategy, as the first offset and our US Air Force's nuclear capabilities turned strategy into strength.

Recognizing these strengths however over overtime the Soviets responded with their own nuclear force build up and as that advantage narrowed we then had to take the next step forward. We invested in the development of technologies to take conventional weapons to a new level and from this eventually launched the dawn of precision. Coupling our World War II wide area bombing experiences with improved technology yielded even more accurate weapons in Vietnam and Desert Storm and the monumental benefits of precision airpower became clear. All of which by the way was enabled by space.

Now, in Operation INHERENT RESOLVE as you heard portrayed very well and as you saw very well yesterday from General Brown's presentation, we've been downright surgical in our approach with the most precise air campaign in human history. Today, we recognize precision and space as part of the second offset, and it was our Airmen who turned concepts into kinetics.

Over the past 25 years as you've heard, the world has been watching us has you heard they've seen the benefits of precision and many are either catching up or they're developing technologies and strategies to counter this advantage. So once again, this means that we must work now to develop the next offset strategy, what people are coming to call, the third offset.

Now, no one knows exactly what that next third offset will entail; but I can promise you one thing: the United States Air Force and our Airmen will lead the way by turning theory into reality.

Now Airmen have time and time again solved tough problems in the face of overwhelming odds. Our service was founded on innovation, it's in our DNA and it's where our Airmen thrive.

Take an airpower legend like the late General Bennie Schriever who in 1954 led a team of innovative Airmen under Air Research and Development Command. Working closely with industry back in that era, his team was ultimately responsible for creating the first intercontinental ballistic missile, and then somewhat later on, the technological advances that launched eventually satellites into space.

Let's flash forward more recently, in 2003, our Air Force stood up the Rapid Capabilities Office or the RCO. Leading the way in the DOD, the Air Force RCO ensures our Airmen get the innovative technology they need, when operations demand it. In short, in my opinion, the RCO epitomizes innovation, and capitalizes on speed; two traits we hold very near and dear in our Air Force.

The RCO has brought us technology like the X-37 orbital test vehicle—which is the world's only reusable space plane and the Integrated Air Defense System which right now today protects our national capital region 24/7. And most importantly the RCO, working hand-in-hand with the Life Cycle Management Center, is bringing us the long range strike bomber.

As the first out of the gate to execute our future vision with our newest aircraft, our superb RCO-LCMC team found a way to blend proven technology with an open architecture.

And here's another example, over at Wright Patterson Air Force Base, our Air Force Research Lab team is also taking a critical look at how to apply cutting-edge innovations to a number of areas One such look, I could give you many examples, but one such look is through the small business innovation, research program or SBIR. Recently through a pilot program under SBIR, AFRL developed multiple prototypes, which included revolutions in small handheld devices for precision navigation in GPS-challenged environments and rapid advances in 3D printing to streamline and economize aircraft depot maintenance.

And then here's another example, just earlier this month, right here in the state of Florida, our Airmen from the 45th Space Wing at Patrick Air Force Base sent the last GPS IIF satellite into orbit. GPS revolutionized our precision, navigation, and timing capabilities and of course now we're gearing up for the next generation, GPS III, and we'll see what that has in store for us.

Meanwhile, our test and evaluation Airmen of the 53rd Wing, Eglin Air Force Base is integrating space-derived GPS capabilities into our F-35 to ensure we remain the world's finest precision strike force.

So the bottom line, ladies and gentlemen is we the United States Air Force are dedicated to innovation. We take it very very seriously. And there is no doubt in my mind, that by pairing future air, space, and cyberspace technologies together with innovative concepts, America's Airmen will be the ones leading the joint force in assuring our Nation's advantage against any adversary into the future.

And speaking of adversaries, boy oh boy do we have adversaries these days. Our country is leading a global Coalition to degrade and ultimately destroy Daesh, in the Middle East and at the same time if that's not enough going on, we're keeping our eyes on the ball to protect against a wide range of potential adversaries, everything from an assertive China, to an unpredictable North Korea, resurgent Russia and of course always standing ready to respond when disaster may strike anywhere in the world.

In 2015, our Air Force flew the lion's share of over 55,000 Coalition sorties in Iraq and Syria as part of Operation INHERENT RESOLVE, we deployed F-22s and RPAs to Europe, we demonstrated resolve with our B-52s in the Pacific, and of course we led the rapid global response to the Nepal earthquake with more than 800 tons of life-saving cargo delivered.

If recent history is any indication, and I suspect it will be, our Nation will expect nothing less and it will continue to call upon on our Air Force and its innovative Airmen to help resolve any security challenge that comes our way.

And I want you to know that General Welsh and I are absolutely committed to make sure we are ready to answer that call. But to do that, we've got to be forward thinking enough, we have to be able to balance the needs of winning today's fight while also preparing simultaneously for whatever tomorrow may bring.

Now the horizon to some may seem rather distant, but it doesn't seem distant to me, I think it's actually just around the corner, so we're getting ready for takeoff. Deputy Secretary of Defense Bob Work recently articulated five building blocks, or five key ideas, where the third offset strategy may give us some thrust and indeed that was the subject of the opening video.

Now holding all of these five building blocks up is what I call the foundation…and this foundation is our real secret weapon and I'll come back to that in just a few moments.

The first building block harnesses the power of what's called autonomous learning systems. Think of computers, computers that can learn and adapt over time. They'll be able to in the future be able to sort through massive amounts of data in a flash and they'll be able to help the warfighter make high-pressure decisions on cyberattacks, satellite movements, and target identification.

An Air Force example of how we're thinking about something called and bear with me on this, this is a mouthful, the Neuromorphic Fusion of Timely Intelligence program. We call it NFTI for short.

Essentially, NFTI is an automated intelligence gathering system based on deep learning technology and it's going to help our intelligence community make faster decisions, over larger data sets and with more confidence about the conclusions.

Human-machine collaboration, that's the second building block. This is where a machine acts as a human's assistant to prevent the human from overloading. And it allows the user to focus on the life or death decisions that only the brain of the trained Airman can make. So a great example here from the Air Force is the F-35 helmet, which will take massive amounts of sensor and computer data from the aircraft, combine it, and present it to the pilot in a digestible format. Future technologies will be even more advanced, with decision-aiding systems working together with humans as a highly-effective team, not only in the air, but also in space and cyberspace.

The third component of the strategy, assisted human operations uses machines and systems to help the warfighter, and I'm thinking here of things like wearable technology and combat apps. Our Air Force Research Lab recently developed exactly this type of wearable technology. It's a concept called "BATMAN—II", which integrates sensors, computers, and communications gear in a lightweight wearable package and the idea is to aid our special operations Airmen during combat. Over time, I think we're going to see more of this type of assisted human operations in other operational venues as well: in the cockpit, on the flight line, and even in space, to give our space operators a "virtual presence" on our satellites.

A great way to think about the fourth building block, human-machine combat teaming, is by considering one of the many ways we could integrate autonomously operating platforms with a manned strike

package in the future. For example, autonomous platforms could conduct initial ISR to identify surface-to-air threats, and relay the information back to the manned package for follow-on electronic warfare operations. And then, a second group of autonomous platforms could serve as “trusted wingmen” of the manned package, providing defensive coverage or even serving as a “munitions truck” carrying extra weapons. For those of you who have heard of the arsenal plane concept, this is it. This is the idea of the arsenal plane.

Finally, we’ll implement the fifth component of the offset, network-enabled semi-autonomous technology, in weapons like the small diameter bomb.  Semi-autonomous capabilities allow weapons to communicate and share data with other weapons, so that they can still hit the target if they lose data link from the aircraft or if they lose access to GPS, as well could happen in a highly-contested environment.

Ultimately, when you add all of this up, all five of these concepts, they are about making our humans, our Airmen, more effective across the full spectrum of combat operations. And indeed, it is our Airmen who are our the true secret weapon—they are the foundation that underpin all of these building blocks. And you have heard speaker, after speaker, after speaker at this symposium essentially make the same point about how it all comes down to our Airmen.

Now let me take a cut at trying to put all of this together and explain to you how it might actually unfold in practice. So now just imagine a not-so-distant future where an Air Force F-35 pilot, commanding a flight of uninhabited stealth wingmen, uses human-machine combat teaming, that is to say the pilot receives a tasking to destroy an mobile ballistic missiles which are protected by an advanced air defense system.

Well our pilot continues on, and she infiltrates the contested battlespace, while receiving continuous updates on the threats’ exact locations in her cockpit. Space and cyberspace assets, fueled by autonomous, deep learning systems, send her updates at lightning speeds and they fuse ground, airborne, and space sensor data. She then sends her uninhabited wingmen deeper into the enemy airspace to provide high-fidelity targeting before she releases her long-range, semi-autonomous weapons towards the threats.

Simultaneously while this is taking place, our space Airmen are refining the mobile targets’ pinpoint locations in real-time and our cyber Airmen are using network-enabled cyber techniques to be able to disrupt or jam the enemy’s radar picture. The weapons reach the targets and they destroy the threats.

And our pilot validates the destruction through data displayed in her helmet, thanks to assisted human operations.

Now you may be asking yourself, at least some of you what does all of this mean in a little bit more plain and direct English. The way I would put it is it means we will deliver air power through air, space and cyberspace and we will do it simultaneously and we will do it in a coordinated fashion. It means we will seamlessly transition across multiple domains, placing the enemy on the “horns of multiple dilemmas”. Which of course will make it much more difficult for them to respond.

It means we will render anti-access and area denial strategies useless since we will be able to exploit, occupy, and manipulate warfighting domains to our advantage. It means that when and if the enemy thinks they have us boxed in…they will be wrong.

Now we know that achieving this vision will not happen overnight. But again, that is why we must invest now in the types of technologies innovations, concept development, and cultural change to ensure our future advantage. And most importantly invest in our people

Our Air Force Future Operating Concept which we published last year spells out scenarios much like the one I just gave you. It is a consolidated vision for how we see ourselves operating in about the year 2035, so if you evaporate had a chance to take a look, I would refer you to the Air Force Future Operating Concept.

Now, these technologies that we're working on are mighty impressive, they’re even eye-watering at times and you can bet that those others around the world will be watching and they will always try to catch up. But what our adversaries will never have, what they don't have and won't have in the future either, is the American Airman.

It’s Airmen who will pair the innovative technology—provided by both defense teams and industry team — with a mixture of creativity, courage, and grit.  It’s Airmen who will execute the CONOPS, just like the airpower legends who came before them. And it’s Airmen who are our most essential resource—it’s the secret weapon I referenced earlier – and we just need to make sure we do our part to support them and to support the strategy.

Now to usher in the era of the third offset, and ensure we are able to confront any threat, we'll continue to focus on our top three priorities in the FY17 budget and the five year defense plan that we just delivered to Congress.

And priority number one just as you heard over and over again is taking care of people. And although there are many facets to the people equation in our Air Force, I want to begin with the size of our force. You heard General Welsh say and you heard others say as well and I want to foot stomp it, we have been downsizing for a long time in our Air Force and this simply must stop and it is stopping. It is stopping and now we're in an era of a modest upsize, we're doing it for our total force and top priority is to address a number of key areas including career fields of intelligence and ISR, cyber, maintenance across the board, and our battlefield Airmen, career areas. Our budget reflects what we are doing to take care of our Airmen and in fact, we spend more on our people than we do on our platforms.

Now Congress gave us the authority to plus-up our active-duty from roughly 311,000 to 317,000 Airmen by the end of the fiscal year and that's good, but in reality, I think that mission demands will indicate that we need even more growth in FY17. So to meet these demands, I'm planning on taking a judicious approach to incrementally increase our total force beyond the current level, provided of course we can attract the right talent and we're working to do just that.

Now speaking of total force, we're continuing to maximize our use of the guard and reserve working very, very closely with our active duty, we're shifting additional missions and work load when it makes sense to do so. Such as in the fields of cyber, ISR, command and control, mobility, and space. We're also continuing to push the envelope on integration, from the staff level to the wing level.

Moving on to other personnel concerns, we are asking the Congress to provide requested funding for a 1.6 percent pay raise as well as targeted pay and retention bonuses for a variety of career fields, including our very important RPA force.

And finally, still on the subject of people, this budget expands our Sexual Assault Prevention and Response program, we're fully funding our childcare operations, we're boosting educational benefits, and we're funding the most important infrastructure projects to benefit our Airmen.

Now priority number two is striking the right balance between what we need for readiness today and our

important modernization for tomorrow. And as we explained repeatedly, today less than half of our combat forces are sufficiently ready today for a high-end fight. And our aircraft inventory is old and our adversaries as a general proposition are closing the technological gap quickly so we have to be ready and we have to modernize.

In terms of readiness, we are funding flying hours to their maximum executable level, we are investing in weapons system sustainment, and we are going to ensure that combat exercises like Red and Green Flag remain strong. After consulting thoroughly with our Combatant Commanders, General Welsh and I agree that we needed to make some adjustments in this budget to reflect some of the world conditions that I referenced earlier. One such adjustment is we're rephasing of the A-10 and EC-130 retirements. The bottom line here is that we are not proposing to retire any of these aircraft in FY17.

The FY17 budget also adds 24 more MQ-9A Reapers to our inventory, and very importantly increases the munition buys so that we can meet operational demands appropriately, and this is elevated quantities of JDAMs and Small Diameter Bombs as well as certain other munitions.

Turning to modernization, we've got ongoing very important investments to top priorities of nuclear deterrence, space, and cyberspace. Of course we're going to continue to advance the F-35, the KC-46, the new bomber, and Combat Rescue Helicopter, and we're going to get going on the JSTARS recap, the T-X program, as well as fund a strong Science and Technology base.

So all of that is the good news, but unfortunately it's not perfect news, because modernization is the part of the budget where we needed to make some tough choices this year. For example, we having to defer five F-35s in FY17, we'll also having to defer three C-130Js in FY17 as well as some important 4th generation upgrades to improve our F-16 missile warning and radio systems as an example. And finally many many needed infrastructure projects all across our Air Force will simply have to wait.

And I never miss an opportunity to remind all of you and remind our Congress we really, really do need the authority to conduct a base closure and realignment. We're spreading out a much shrunk pie for infrastructure improvement and we're spreading it out to too many different places and not doing justice to any single location. We got to get beyond that, we need a BRAC.

Finally, and most importantly, we're asking Congress to lift the Budget Control Act permanently in FY18. Remember it will come roaring back if Congress does not affirmatively act. And if that happens we will return to the bad old days of sequestration, which of course would touch all of the important priorities I that just referenced, people, readiness and modernization. And of course we need the authorization and appropriation bills complete and passed by the first of October.

The third and final priority is our commitment to give the taxpayers the best bang for their buck and that's to make every dollar count. Of course we have a number of initiatives including energy usage, cost saving ideas that come directly from our Airmen that we're putting into practice and we're continuing the march toward meeting the mandate to be audit ready by the end of FY17.

We're continuing to push the envelope on our Bending the Cost Curve initiative, which is our complimentary set of proposals that work with the Better Buying Power initiatives of DoD, so we're for example beginning to reduce the lengthy period for awarding sole source contracts. We've made some progress, I'm still not satisfied with where we are, but we got to keep pushing and we have had some progress also with our Cost Capability Analysis objective. For example in the B-2 program we were able to reduce costs for the extreme high frequency communication system requirement by about 41 percent. We're also introducing it into our T-X acquisition strategy.

The bottom line is that the numbers count, innovation counts, and speed counts. If we can get the price tag right, leverage innovation, and we can go faster, then we can acquire more of what we need and all of those elements will be very important as we continue toward the third offset and the future of global precision attack.

Now one final program, there are many, but one final program I know will be very, very important to the future of the third offset, global precision attack and that is the long range strike bomber. Our 5th generation global precision attack platform will give our country a networked sensor-shooter capability enabling us to hold targets at risk in a way the world, and our adversaries, have never ever seen.

And speaking of never seeing it, you know I don't mean to ad lib here, but Chief do you think anyone might be interested in seeing a new bomber for the 21st century, really seeing it? Do you think there's any interest? You guys want to see it? All right then. All right then.

Well ladies and gentlemen, it is my distinct honor to give you a bomber for the 21st century: the B-21! [

applause ]

So we have an image, we have a designation, but here's what we don't yet have, we don't yet have a name. And this is where I'm challenging and I'm calling on every Airmen today. We want our active duty, our national guard, our reserve, our civilians, our family members, we'd like all of you to give us your best suggestions for a name for the B-21, America's newest bomber. And in so doing, we hope that you'll take the opportunity and we are going to try facilitate this for you as well, so we can learn more about the important role that this platform is going to play against the real threats that we will face as the United States of America with our allies and partners around the world in the future. So please stay tuned and keep your eye on af.mil, and Air Force social media, we will be putting out more information about how we will collectively name the B-21.

Let me close by saying that as I look across this room, I am so incredibly proud of what we have managed to accomplish through the collaborative relationships that we've been able to foster with our industry partners.

Together, we're well on our way toward a more integrated, networked, and multi-domain future in Air, Space, and Cyberspace. Together, I believe we're well on our way to a third offset—to give our country unmatched advantage, unparalleled technology, and unequalled strength. Together, we're going to lead our Air Force, our military, and our country into the next generation of warfare dominance.

But none of it is possible without our secret weapon…which brings me full circle back to we need Our Airmen. Our Airmen represent our legacy and our future.  Our Airmen embody the audacity of the Doolittle Raiders, the perseverance of the Tuskegee Airmen, and the courage of the Women Airforce Service Pilots. Our Airmen inherit the legacies of Hap Arnold and Billy Mitchell, and they live in the spirit of Lance Sijan and John Levitow.

And they're fortunate to inherent the legacy of the greatest Chief of Staff we've ever had and I'm speaking here of General Mark Welsh, this is your final Air Force Association meeting, Chief, and I just believe from the bottom of my heart, have you been the right leader at the right time and we're all so fortunate to have learned from you and to have had your leadership at this time in our Air Force. [ applause ]

So Chief you've been our secret weapon and you've taught the rest of us how to move forward and we will do so in your honor. So ladies and gentlemen, you know how I’m going to bring this on home, I’m going to remind you all, because everyone here present you're all Airmen. So aim high Airmen, aim high. Thank you.

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