Lieutenant General Bruce Litchfield
"Achieving Art of the Possible"
(Our Acquisition Team)
AFA - Air & Space Conference and Technology Exposition
15 September 2014

Lt Gen Litchfield: First, thank you everybody, and General Wolfenbarger for coming. So there's no pressure on me today, because she doesn't know what I'm going to brief and she's -- well, she actually does. But to be here in this audience, it's a great honor for us to be at AFA and talk about 'Achieving Art of the Possible,' which is what we're going to walk through.

Before I get into slides, I'd like to at least set the foundation so that everybody knows why they're here; and if you're not here for the same reason, please just hang with me until the end of this and then we'll discuss what you came for and how I might have misspoke.

But here's the issue. A little over two years ago, General Wolfenbarger stood up the new reorganization with AFMC, and I'll steal her words -- I think she said the 'reinvention' of AFMC. As part of that, I got to stand up Air Force Sustainment Center, which took into play all the Air Force depots, the supply chain, and pulled them all together. Also here today -- this is really a cool thing -- we have General Thompson here who is about ready to take over the Life Cycle Management Center within AFMC.

So, when we looked at the opportunity that we had as we stood up this reorganization, you really had to think through what is it that you really wanted to do? What is it that we owed the Air Force? Because if you just looked at the reorganization and moving the blocks around on an org chart, that's all it really would have been. It wouldn't have been any different after we stood up than it was before except it would have been a new commander. I think there are a lot of folks who have been through reorganizations like that where really at the end of the day you didn't change much other than who you reported to.

We had a rare opportunity that we said that if we stood up Air Force Sustainment Center, what is that when we're done or while we're executing we can add tremendous value to our Air Force? What is it that we've talked about all throughout our careers wanting to be able to do but never having the opportunity to do it because of organizational leadership or other types of issues that got in the way? So we said we weren't going to waste this opportunity.

When I looked at the AFSC, when I looked at what the enterprise consists of, it's really pretty ginormous. So there are 35,000 folks within AFSC. It's a $16 billion annual spend for its

working capital fund and for its O&M for what we're able to do in the business. And when you look at the assets that we control, we are in the top five industry for defense contracts.

So when you looked at those assets that we had, when you looked at what we controlled in terms of spending power, we decided that we needed to accomplish two things for our Air Force. Number one was to be effective. We had to make sure that we could sustain the readiness of the fleets that we were responsible for. Number two is, and you can call it coincidence but it really was the reason and the rationale for the reorganization within AFMC, the budget environment was coming down drastically. As we all heard Secretary James talk about today, we are in clearly a different climate than we were in back in the '10 time frame, '11 time frame. So when we stood up, we knew we had to be both effective and we had to do something to improve our efficiency. So we came up with this term called cost effectiveness.

Now, when you talk about cost effectiveness, you look at it in two areas. One is we still have to maintain the capabilities of the fleet. And two, we have to do it in a much more dollar-conscious environment.

So we promised two things to our Air Force: effectiveness and efficiency.

We were pretty good at the effectiveness thing. I don't think anybody should hang their head and think about every Airman, Sailor, Marine, that we had out there, Soldier, we gave them what they needed throughout the two and a half decades of war, and also since 9/11, the 13 years prior to 9/11. We were fielding some great capability, but we weren't doing it necessarily with the budget in mind. We were making sure we got what they needed. So we changed the environment.

How do you change that environment? And if you're in business and we all, there's a great deal of companies that are represented here. We wanted to go figure out what made the best of the best successful. What made an industry, whether it was defense or whether it was in our industrial blocks around the world, what made companies successful? It was really kind of obvious to us. Every one that was really successful, all the companies that were on the cutting edge, all the ones that were the most profitable, had a system in place. They actually had a way that when you signed up for that company and you came to work you knew what was expected of you. You knew how to operate as an employee. You knew how to operate as a team within that organization. Your business unit leaders knew what they needed to do to be successful in accomplishment.

So when we stood up AFSC we went out and tried to learn the best of the best that was in industry. So we put into place a system when we stood up that talked about how can we not only be the best at what we do within the Air Force; best of what we do within the Department of Defense; and the best of what we are no matter where we were worldwide. That's what we set out on a journey to do.

Now, I'm not telling you we're anywhere close to where we want to be. I'm not telling you that we're perfect in any way, shape or form; but what we have in play and we stood up when we brought AFSC on line was the system of how we operate.

Now because of that we got some great results; and I think in a very short period of time, we can talk to you about more capability being delivered to our Air Force. If I look at it in terms of aircraft back to the operational commanders, you can talk about it in terms of about 20 percent improved aircraft. When you look at it in terms of supply support, we've improved supply support about 19 percent and 11 percent two years running. So tremendous capability.

When you think about that, we've gone to all the MAJCOMs now. General Wolfenbarger, along with Dr. LaPlante, hosted what we called acquisition and sustainment reviews; and we go out to all the MAJCOMs and we say, "What do you want?" All of them say two things -- more capability, and we want that capability for less cost. So we provided more aircraft, more parts to the field; and we've done it at significantly reduced cost. I can quantify it in a lot of ways, but the best way to quantify it is last year, we were able to announce that in FY15 we gave the Air Force back $500 million, and it's looking like we're going to be about in the $250 to $300 million for FY16 given back to the Air Force.

On top of that, we have what's called A Road to a Billion and Beyond program where we're trying to save or to do cost avoidance, and we're trying to achieve a billion dollars. We started that about 18 months ago and in the first nine months of operation we had gotten too close to a billion, so now we're calling it Road to a Billion and Beyond because we achieved $770 million of savings the first year, and now we're up about $1,095,000 in the 18 months of operation. What that's allowing us to do is to get more readiness at less cost for our Air Force.

There's a fundamental principle that I'm going to talk about that we really believe. So the cost of readiness determines the size of the force that we can afford, and the size of the force that we can afford determines how we fight and win the next war. And I, I'm getting kind of long in the tooth -- or 'seasoned' I think is what General Wolfenbarger uses, seasoned. So I think it's my

obligation to ensure that the next generation of Air Forcemembers have the same luxury of dominant air power anywhere, any time, and that's our obligation to give it back.

So if you look at the Air Force priorities of being able to bound modernization and readiness and every dollar counts, we're right in the sweet spot of what our Air Force is asking us to do.

What this session here today is to do is to say this is our system. We're making it available to anybody that wants to learn our system, anybody that's available that wants to know how we operate. So whether you're at Hill Air Force Base, Tinker Air Force Base, or Robins Air Force Base, we're all operating under the same system. Whenever you're trying to see how we're overhauling our aircraft, delivering parts, managing our weapon systems in the supply chain, we have one system that's operating across all the entities. And this is what we found, and it's pretty exciting.

We found now that our partners, so in the Air Force if I work with General Thompson and LCMC on the tanker today, and LCMC tomorrow, he knows what to expect, what the data that we're looking at says, what the results are. And it's across all our lines, so there's no confusion. It's helped our partners in DLA become better partners with us in the supply chain. We can't operate effectively without DLA being on board, and now they don't have to -- from their headquarters at Fort Belvoir and Admiral Harnitchek or General Johnson at Richmond or any one of the commanders at our bases, they can all interact and say this is how we do business with the Air Force.

So when we've taken that -- the efficiencies that we've been able to gain, the ability to shrink by almost 50 percent some of the overhaul times and engine repair times and part turn times and the ability to drive down cost -- when we've seen what happens internally within I'll call it the Department of Defense or our inside the DoD team, the next question obviously became what happens if we share this with industry so that our industry partners don't have to guess at what we're trying to do or what we're trying to achieve, how we operate? They can get in sync with us.

It's really about integration and synchronization with how you do business that really makes the difference between an average operation and a good operation and even up to a great operation. It's not working harder, it's not working longer. It's about being able to bring the resources to bear.

So this is really what this session's about, was so that we could open it up for everyone, our industry partners to understand how

we're doing our business, how we're shaping it, what we're looking for for the future, and then also of course being in AFA we have an awful lot of DoD folks here that we want to talk about with everybody and share it with so that there is no mystery behind how we produce weapon systems for our Air Force. So that's the background behind what we're going into.

Anybody have any questions so far? I can make this interactive, or we can wait until the end. Obviously we're going to wait until the end.

All right. Go ahead.

Question: [Inaudible]?

Lt Gen Litchfield: Recap set retrograde. I could go into a two-hour session on that with my partner General Thompson. But what we're really doing is, if you look at the Air Force priorities, the three weapon systems that we have -- the F-35, the tanker, the KC-46, and also the long range strike bomber, there are our modernization priorities. But then also the weapon systems that we have out there.

So I could talk to you about Tinker Air Force Base and the AWACS; I can talk to you about the B-1; talk to you about the B-52; and the KC-135. All four of those weapon systems are going through major modification. Two of them are the biggest modifications for those weapon systems in their history. The other two are going through what I consider the digital backbones which is going to provide them the capabilities long into the future.

Then the retrograde, we have it going on in two ways. The retrograde is making sure we in the Air Force don't do as much of the reset that the Army does because we do PDMs on our aircraft, we do overhauls on our engines based on hours and time. So we don't put them over into war, let them eat them up and then come back. But what we are doing right now in a big way is doing the retrograde of parts out of Afghanistan and out of that territory, so that we're reusing, redistributing and satisfying balances around the world to some of those parts that we're pulling out. Great question.

Let me go to my first chart please.

The system. This is probably a chart that everybody can look at and fully understand what a system looks like. So what we have in place to put our system, first is the leadership model. Across AFSC every senior leader, every first line supervisor, anybody that's a leader within AFSC operates under one leadership model and it's really centered around understanding your common

goals, understanding what it takes to achieve those common goals, and this is my fun question that I get to ask everybody. What I say is that, in order to achieve a goal, in order to achieve an objective within an organization, there are only three things you can work on. That's with the resources you have, the people and the processes.

If you look at the leadership model outside the common goals are resources, people and processes. So our folks have to get really good at understanding how to take care of people. Not just how many you need, but the skills, the training, the backgrounds you need and the areas of how to develop them.

Resources. In today's environment, we'll never have everything we want, but it is leadership's responsibility to get folks what they need.

Then I would say, if you look at the future, do you think we're going to have more people and more resources? The answer is no. So if you're going to achieve your objectives, what you have to get really good at are the processes.

That's the leadership model. That's fundamentally how we grow our leaders within the organization. That's how we expect them to talk to us. Whenever they have a problem we ask them to talk to us about it in terms of people, resources, and processes. And oh by the way, if you're not doing process improvement, if you're not focused on making tomorrow better than today, you're not exhibiting the leadership values that we want within the organization.

There's a little more to it then in speed, quality, safety, and cost effectiveness. That's what we really focus on; so whenever we're doing an improvement opportunity, it has to be around those four areas.

Then the blue bar in the middle is the leadership culture that we want to achieve. So I say our job is to create the environment for success. I have 35,000 folks within the organization and I'm responsible for every one of them being successful and it tiers down from there. So that's our leadership model.

I have a chief that we just got in from AFSOC. He would describe this leadership model as the 2000 pound JDAM, right? So it's applicable in all environments. Whether you're on the flight line, whether you're in the depot maintenance area, supply chain area, whether you're on the mobilization line. The leadership model applies.

Then there's the scientific methodology. That's the middle area. Our business is not random. What we do is not a pickup game. What we do is really based on scientific principles. So we went out and looked at some of the best in the industry, both academia and what we do in terms of theory of constraint. In terms of lean. In terms of MIT's work and Little's Law. In terms of applicability to say how do you put numbers behind the way you do your business?

So the scientific method is all about putting data and taking a non-linear problem and making it linear. That's really what this is all about.

We all know how to work ABCs, but in our business of maintenance and repair, typically you can't predict what's coming in. What we're trying to do is put predictability into it.

Lastly, you see the application chart. Every application is different. Every application says that whether it's a bomber or whether it's a tanker, whether it's supply chain, or whether it's contracting operations, whether it's CE, whether it's running a golf course all has different applications of how you take those scientific methodologies.

So what we've created is a way to go from a strategic concept down to what's the last line on the horizontal bar is called touch time. What our people do every day as they come to work.

This allows this system to be done everywhere, every place.

It also gives something fundamentally unique to our business. It lets everybody come to work and judge whether they've had a good day or not.

If you think about it, in a government work place I can't hire or give bonuses necessarily to make folks perform better. You come to work in a government organization for something maybe a little bit different than money. You've got to have the money to pay your bills and to achieve the things you want in life, but you've got to have some self-satisfaction. There has to be a way that says at the end of the day I did what my nation asked me to do.

So what we provide in every work center is the opportunity for folks to know whether they've had a good day or not. And if they didn't have a good day, they didn't meet their goals or their targets that they were supposed to hit, what we want them to do is to go home that night and say what can I do different tomorrow to make tomorrow better than today? And if you look at what that does, it brings engagement of all the work force together.

I'd like to tell you that it's perfect and the application of this model is, we just turned it on and clicked it. It's not. There's a maturity process for people to learn; there's a maturity process for how you come up to speed; there's a maturity process for how you grow your leaders to be able to operate in this type of collaborative environment.

So when you go across from Hill to Robins to Tinker to Scott and all the places the application as we have it, it's not everybody's performing at the same level. We have some very high level performers and we have some folks that are just coming up the curve. But the real exciting part for me is everybody's on the journey. That's what has allowed us to achieve those gains that we've made over the last two years. And we think when we look into the future there are some really big steps that we're trying to make and we're not slowing down.

When I put all this together, one of the questions that we're asked is, how do you continue it? How do you codify it? How do you make sure that it's not just a personality driven engagement? How do you make sure that it endures?

So we got together and put a lot of thought into this one. If you push the next button on the slide, what we created was the Art of the Possible book. So what we have today for you is, I think there's a card and a white paper that we're going to hand out. It's right here. The white paper describes the system that we have in place. We were going to do a book signing but I couldn't print the books. I didn't have the budget to print the book. So we'll sign the white paper for you as a book signing. Then on this card, this is really cool, this is technology. This is -- I'm going to talk to you about the depots. It's got a URL on it, an all you have to do is click the URL and you can get to the link that has this book, and before I came here in the airport I took my iPad, I clicked on the URL, I downloaded the book, and I read the book from cover to cover on my iPad as I came out here.

Now that wasn't the first time I read the book. It just happened to be I wanted to make sure it worked on the iPad when I came out here.

So every one of you will get a card with the URL and the white paper describing what's there, and we wanted to give that out today so that we can share the way we do business.

It's a pretty easy read. I'll even go so far as to say it's actually a pretty good read. There are some lessons in there that you'll walk through. The first third of the book is about the theory and the application, and the last two-thirds of the

book is all about case studies. So as you go through it you can see where we've actually applied it how we've applied it, and the results we got.

I'm not saying, I'm not asking, and I hope you don't take away that I expect that this is going to be revolutionizing everything. It's not. It works for us. If there are some things that you read through in the book that works for you, great. And that's part of the dialogue that we can have. But I'm hoping that you read it and that we can have a much more informed dialogue on the future of what we can do to improve the way our Air Force sustains its fleet.

When I talk about sustainment I want to talk about it in two ways. There's sustaining the weapon system. Those are the modernization things that we do to the aircraft or the upgrades that we make to the software. Then there's sustaining the infrastructure that we need to support these weapon systems. Because as we look at the future, how we do things like non-destructive inspections; how we do things in terms of taking parts that were never supposed to be replaced in these weapon systems, reverse engineer them, remanufacture them, and getting them out and fielded, are things that we need to have that infrastructure in place because these aircraft aren't going away any time soon. The parts are not going to get any easier to sustain any time soon.

In fact I was just having a dialogue with a company that's producing one of our brand new weapon systems and they're worried about obsolescence already. So this is something that's very real and how we deal with it is going to make a big difference for us in the future.

That's the book, that's the system, that's what we have in play.

I'm going to steal something from I guess my former commander now, the Director of Logistics for Air Force Materiel Command, Brent Baker. Brent Baker, and don't take offense to this, if you do, he's an Alabama fan, right? So he would say that when you go to play football for Alabama and you look at Nick Simmons' processes and the way he does things, you don't get to do things your own way when you go play on that team. You have to, whether you're the best quarterback or the best running back, you have to be able to operate with that system. That's how you get sustained results over a long, long, long period of time and that's what we're putting into play.

That's the book, that's the system, that's the methodology. Next chart, please. I'm not going to go through this because once you download it it becomes really cool. But the chapters of how we

walk you through from what is it about speed? It's all about speed in our Air Force; it's all about speed in what we do; but it's not about people working faster, it's not about people speeding. It's about how do you get greater throughput through your processes? How do you make a better, take more advantage of the resources and the people that you have as you're doing that kind of work.

Then the leadership model. We go into a pretty good discussion about all the tenets of the leadership model and what we mean to them. When you look at the leadership model this is what people tell you, tell me. It looks simplistically easy until you start to try to master it and then it becomes incredibly hard to become a master at how to be a good leader across all the elements that we're asking for.

We'll go through also the science and the throughput and the models. If you don't like math, if you can't take math, then I would suggest you skim through those chapters and give it to someone who really does like math.

I'll tell you this story. We have a class that we teach to senior leaders, and that class, every new GS-15, colonel, SES or GO that comes into the sustainment center has to go through the class. And the homework assignment is you have to read the book and then you have to write a paper on how you would apply it in your job before you've taken the class. We want to get a fundamental understanding.

This last class I had a lieutenant colonel came to me and said sir, you know your math is wrong. So I'm thinking about 300 or 400 people have read this book and no one picked up on that we cut some corners in our math equations to simplify the equation. And that lieutenant colonel was very upset that we weren't pure in the way we applied the mathematical equation.

So I didn't grow up yesterday. I said okay, you're right, I admit it. Now go fix it. And so his job during the remainder of the course, he redlined the book and fixed all the equations so now, according to him, they're mathematically pure. So I'll leave that out there and see if there are any more challenges that we can get on.

Next chart.

Then how we ended up. In the case studies, the majority of the book is about case studies and how they apply. I'll leave you with some things like this that we can do for our Air Force.

The Lead the Fleet program on this one has been the KC-135. The KC-135 took about 226 days to get through a program depot level maintenance. We're now doing them in an average of less than 130. Some coming in mostly around 120 unless there are some extenuating circumstances. And we just produced an aircraft last week in 93 days.

So what does that mean? That means that if you're AMC, you have ten more KC-135s back in your fleet that aren't sitting on a depot ramp. And I would say we did it for free, but actually we're saving the Air Force about $35 million a year and doing it at this pace at this speed with this process improvement. So not only do we give them more aircraft, but the Air Force is saving money.

When you look at our engine fleet on this same weapon system, we've been able to cut the production time for those engines in half. We've been able to reduce the number of engines that we need in the Air Force inventory. We've been able to get much better at the way we predict what parts we're going to need. We've been able to remanufacture or repair some of the parts. And we've cut the overall supply/demand requirement from about 193 million down to 16 million. That's not through more people. That's not through getting new systems. That's through applying a system approach to how we go about sustaining weapon systems.

What I would invite now, like I said earlier with our industry partners, there's so much more and better we can do. And I'll even go with this one. On the Block 40-45 AWACS, we're able to work with Boeing and our partners, able to cut off about eight months in how we overhauled and did the PDMs on that aircraft. It sustained about a 1.5 aircraft AA advantage for AWACS. And when you look at that in a fleet of only 20 or 30 aircraft, that's huge.

We've been able to work the same on the B-1, and now on the B-52 we're able to install the connect mod in the same time that it takes to do a PDM which essentially means we're getting to install a major modification on a weapon system literally almost for free.

That's the kind of engagement with industry that we can have. We've been able to do it on the F-22, the partnership with Lockheed, pulling that in to Hill. We're able to do the overhaul of the aircraft at about a $30 million a year savings, and oh by the way help the field out with the LO reversion modification so that we can do them all, so we can take them in from the field and not putting the maintenance on their back.

We can change our Air Force. We can do it together. We can do it as a team. I just wanted to share with you our approach to doing it so that you knew fully well when I ask about what does a partnership look like? A partnership in our business would say it helps facilitate the model, the system we have in place.

I think that's the last chart I have other than to simply say together we can make a difference.

Let me stop there. I promised I would leave time for questions. Do you have any questions out there?

Question: [Inaudible]?

Lt Gen Litchfield: I actually think the closer synchronization that we can get with industry on the weapons that we support. Right now, so I'm going to get geeky a little bit here, but you asked a tough question and I want to answer it honestly. Most of the critical paths that we establish; number one is to keep on that critical path. If you're not on the critical path, you're not making any advances towards giving the warfighter back capability. But I've thought about this. I'd like to take the critical paths and fold them in half and shorten the time by 50 percent, because once you learn how to do concurrent work, once you learn how to have everything in place when the persons need it, you can take the critical path and fold it in half.

Then if you think about what we could do for our Air Force and what we're being asked to do in terms of OpsTempo and take those weapon systems and put them in the field, and then help the maintainers in the field be able to get them MC and get the mission ready, I would suggest that we would be able to meet exactly what the Secretary wants to do by taking money out of the sustainment system and allowing it to go into modernization.

I have a theory here, that if you're a company, you'd rather have money go into modernization. Right? Because if you look at what our industrial base is about, it's about innovation, it's about technology, it's about creating the solution that we haven't yet thought about.

So what I'd like to do is, to steal an old adage, 'time is money.' If we could take the critical paths and figure out how to fold them in half we could change mightily the dynamics of what it takes to do what we now consider PDMs or overhauls and sustainment. Without doing it on the backs of our people, without costing us more money, and without doing anything better than getting more sophisticated in the jobs that we're in.

Question: [Inaudible] great presentation. The part I really like is this art of the possible where [inaudible]. That's a great thing.

General, how has the lack of data rights held you back in achieving those, the cost effectiveness, if you will. Because I know of one platform, to remain nameless, where the OEMs have the data rights, and we know that if we had some insight into that data, we could drive competition and achieve some savings.

Lt Gen Litchfield: Data rights are an issue on what we can do organically versus what we can do with industry, what we have to do sole-source. I would suggest that data rights is a big issue within our Air Force today. I know that in General Thompson's role as the KC-46, we've beaten him mercilessly to ensure that we sustain the data rights for that weapon system.

Here's the deal, and you can argue with me, but you're going to lose. [Laughter]. Our weapon systems that we're flying 40, 50, 60, 70, 80 years, a large portion of the people that sustain them are the experts in our government, in our Air Force sustainment center, in our AFMC, in our Air Force. I can't find Fairchild out there. I can't find Rockwell out there. And these weapon systems wouldn't be flying if it wasn't for our ability to have organic insight into these weapon systems.

Now, I'm not trying to compete with anybody about replacing new with -- What we're really good at is replacing old with new old, right? In our weapon systems, if it breaks, we're really good in our organic environment about replacing those old parts with new old parts, and we're good at that. We have not so good, or at least it's really hard for us to take those old parts and replace them with a new capability. That's what I want industry to do.

I'm not trying to compete, I don't think anybody's trying to compete with anybody on the 'new-new'. But if you look at our Air Force 10 years from now, 20 years from now, we really do have to have the ability to sustain these weapon systems for the long haul; and I would ask that not to be a source of friction, a source of competition. I don't want to get into the development, the design phase, but I do want to make sure that we protect our Air Force for the long haul, that we've seen that we've kept these weapon systems on board. I think that changes the dynamics a little bit when you talk about data rights.

We're not talking about even the data rights for commercial systems, most of these systems are commercial derivatives and quickly become military only very quickly. So we have to ensure -- This is as much about national security as it is about

competition. I hope we look at it in a different vein as we talk about data rights for the future and why we need them.

If there are better ways of doing it, if there are partnership arrangements that we can make, if there's a time frame where we just give them to you. Whatever it happens to be I think we're open for that discussion. But you can't put data in a vault and expect our Air Force to keep flying for the long haul.

Question: How are you handling the issue of increasing longevity with our systems? How are you keeping pace with IT and rapid turnover and all that technology?

Lt Gen Litchfield: I think there are two elements to that one. I think there's the IT systems that we typically talk about in terms of cyber. I think we have a better approach to cyber than we do to the IT system or the computers that we have in our weapon systems. Some of our weapon systems that we have out there, I think we were talking about earlier, use languages that people don't even know about today. If we brought in someone from college, they wouldn't even know what machine language is and they wouldn't know what Fortran is, COBALT, those were things that I learned when I was in school, but we still use them today.

But over time, we start to modernize and I think that's what the digital backbones that we're doing in our weapon systems are giving us. So we have to be able to, I think, we have to do both. So in the cyber world, let's face it. That's war. That's today's system. That's the high end technology and we've got to be able to deal with that. Then there's the systems that we field in our weapon systems and we need them to be able to be capable of delivering the weapons, capable of doing the mission sets that we give them, but they're probably not on the same level in terms of pace of change that we need [inaudible].

Moderator: Thank you for your presentation.

# # # #