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Operationalizing the QDR: Doing the Right Thing For The Nation

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Welcome
Dr. Barry Blechman
President, DFI International

Introduction
Congressman Norman Dicks
U.S. House of Representatives

Featured Speaker
General John P. Jumper, USAF
Chief of Staff
United States Air Force

Dr. Barry Blechman:
Good morning. May I have your attention, please? Welcome. I'm Barry Blechman; I'm the president of DFI International, and it's my pleasure to welcome you all here and to give you some time to finish getting your breakfast and to find a seat. As you know, these seminars—Aerospace Power Seminars—are sponsored by the Air Force Quadrennial Defense Review Office, under the Assistant Vice Chief, General Lord. They are designed to underscore the role of aerospace power in our national security strategy and encourage debate over competing visions of military power in the context of current and future challenges to our nation's security. We typically have these on a monthly basis; we are planning to step-up the pace over the next couple of months given events and try to focus in on topics that are relevant to current events, both here and overseas. So keep an eye on our website or sign up outside, and we'll be happy to send you notices of these. I'd like to thank Congressman Gibbons for being here—a regular—and Congressman Nethercutt, I'd like to thank you. And of course, Congressman Dicks will be introducing our speaker, General Jumper. Congressman Dicks has been very generous with his time in supporting these seminars. He's of course represented the state of Washington's sixth district since 1977; senior member of the

Defense Subcommittee of House Appropriations; and a strong advocate of our nation's security and a very influential supporter of our men and women in uniform. It's a pleasure for me to introduce Congressman Dicks.

Congressman Dicks:
Thank you, Barry. It is indeed an honor to be here today and I want to also recognize my colleague, John Spratt from North Carolina—South Carolina, excuse me, I was with Coble yesterday—and Cliff Stearns from Florida, of course. And of course John has to be dealt with because he is the ranking Democrat on the Budget Committee, and anytime we want to do anything, General, we have to get his permission. I'm glad to be here today to introduce General Jumper, who I've had the privilege of knowing for the last several years. He obviously is a very distinguished Air Force Officer, our Chief of Staff. I got to meet him when he was leading the US Air Forces in Europe, during the war in Kosovo. And I'll tell you this: the moment I met General Jumper, I felt that I was in the presence of someone who was going to have a real future; he was a very dynamic individual; a person who understands the importance of air power, and also the importance of bombers. I put away my bill to recreate the Strategic Air Command after I met General Jumper. I said, here's a guy I can trust, and he's lived up to his word. He went to Air Combat Command—I went down there and visited with him. I was impressed by a lot of his great ideas: one was of course this common wide-bodied airlifter, not even an airlifter—this was the plane that would replace the tankers and other planes. With what's happening at Boeing, it's a very good idea that I heartily endorse. Also his small-diameter bomb. And also he's a man of intelligence who wants to bring all of the intelligence together in a command headquarters, and I got a chance to see that as well. I have just been really impressed by his leadership, his efforts, and his willingness to come up on the Hill and talk to the Members face to face about what the Air Force is trying to do. I just think we could not have at this very critical time in our nation's history a better man running the United States Air Force. It's a great honor for me to present General John Jumper.

General John P. Jumper:
Thank you very much sir, and it's a pleasure to be here today at this trying time for our nation and be able to talk to you all about the future of our Air Force. You know, I hearken back to my days as a youngster. In my first introduction to air power, I remember my dad was a two-star Air Force General, and he grew up in the town where I was born, Paris, Texas. And we'd go back to Paris, Texas, and he'd go down to the barber shop there on the square—and he'd been in the Air Force for twenty years at the time—and I'd go down there and be with him. The barber would say, "Now Jimmy! When's your hitch up? When you gonna get out and get a job? Now Jimmy, if you was to fly one of them jets from Paris to Bonham, how long would it take you?"

My dad would say, "Oh, ten seconds."

"Gawl!"

So I learned early on this air power thing must be pretty good, and I stuck with it. Today I'm going to talk to you about the United States Air Force, its future, and start off by saying that today as we speak, we've got airmen from all the services in the air, in harm's way, doing the nation's business, just like they always do. It's one of the most gratifying things to me is to be able to go out in the field during times like this and to see our people in uniform pull together. But you know it's more these days than just our people in uniform: now it's the whole nation. Because what we've learned

from this experience is that it's not only the people in uniform who can become targets, it's others as well. And so you feel that same spirit now when you walk around the streets of America and look at the numbers of flags flying, you feel the nation pulling together against this tyranny. And ladies and gentlemen I can guarantee you that we're going to go out, we're going to hunt these guys down, and we're going to take them out. And it's going to take a long time to do it, and we're going to have to have the patience to stick with it as a nation, but it's going to happen. Now I'm going to go over a few things this morning about our United States Air Force, and its future. And I'd try to summarize it in categories: transformation, readiness, recapitalization, and retention. And I'm going to spend most of my time this morning talking about the transformation piece of this, because I think it's the one that requires our most attention.

What we bring to the fight in the United States Air Force—and we're not the only ones, but this is what we largely bring to the fight—is stealth, precision, standoff, the application of information technology, and space. These things that we use to lever the nation's great technology to create asymmetrical advantages against the other guy, before they can create asymmetrical advantages against us. In transformation we have several things going for us. First of all, stealth. One of the things the F-22 will bring to the United States Air Force and to the country is to bring stealth into the daytime for the first time. As you know with our B-2 and our F-117, now we tend to use those on dark, moonless nights. It's their preference. What we bring with the F-22 is to bring this whole thing into the daytime because not only can the F-22 protect itself, but it can also protect the B-2 and the F-117 in daylight operations.

Now to do this we're going to need some modifications on the B-2, and eventually some upgrades on the F-22. And one of those upgrades is going to be the small-diameter bomb. The small-diameter bomb is a 250 pound-class bomb that has wings internal to it, can fly out there sixty or seventy miles, forty or fifty miles left or right of your course, and with the F-22 in the supercruise configuration can take out the SA-10s, the SA-12s, the SA-20s, which are the next-generation of threat. You know a lot of people talk about the F-22 as an air-to-air fighter only. I submit to you that the most work we will get out of the F-22 is to take out those most difficult surface-to-air threats on the ground with precision weapons like the small-diameter bomb. We'll also be looking for upgrades on the B-2, to take more advantage of its accuracy, and to be able to allow it to communicate and retarget more easily in flight.

A second piece of this transformation is going to be the intelligence, surveillance, and reconnaissance piece, and its tie into command and control. And of this I think we're probably proposing some of the more radical changes. This gets into the notion of the horizontal integration of manned, unmanned, and space platforms. It gets into the notion of information technologies that have these platforms having conversations at the machine level, at the digital level, and allowing them to resolve ambiguities of target location and target identification at the digital level.

Now how do we do this? The answer is: how we parse this out between manned platforms, unmanned platforms, and space platforms is of little relevance to me, but we have to get the mix right. We have to combine the persistence of the airborne platforms with the high ground of space in just the right proportion to make sure that this horizontal integration can work. When you visualize this—and this what I've been talking to Congressman Dicks about—it might be something like a Boeing 707 platform that stands back, is teamed with something like a Global Hawk, in this digital-level conversation, talking freely to satellites so that if you have a piece of the ground you

can't see, it has a digital-level conversation with the next satellite coming over the horizon, takes advantage of the high ground, and you're able to locate those targets. But to the person standing behind the console, all they see is a cursor over the target, and the technology becomes transparent. As you all know, we tend to live in tribes, we in uniform. We have our tribes, and one of our tribes is the intelligence tribe. If you walk into an Air Operations Center today, you will see tribal representatives sitting behind work stations interpreting their tribal hieroglyphics—to the rest of us poor unwashed, by the way—but if we let these machines talk at the digital level, they can resolve much of this by themselves.

And the other point I'd like to make is that when I say manned, unmanned, and space, I don't mean just flying platforms. "Manned" can also be special operators on the ground. They put their eyeballs on the target, a feature I wish we would have had in Kosovo. Manned includes all of those things. "Unmanned" can also be unattended ground sensors that allow you to establish the identification of targets on the ground. And so what you have then is this constellation that talks freely, is able to spot things that are happening on the ground, cued by perhaps satellites in space, and are able to zero in quickly on items of priority and then turn those into targeting-quality information that you put in front of the commander. Now the way you do that is through a command and control suite that's on the ground. In that command and control suite, what you are attempting to do is take the synthesis of this information—I'd call it the sum of the wisdom. You can flood everybody with data, but if you turn that data into actionable information and put that in front of the commander, then the commander can make that decision.

And what we've begun is what we call the Air and Space Operations Center Experimental, we call it CAOC-X, at Langley Air Force Base, where we have put these features together that allow us to take the sum of this information from these airborne platforms and digital-level conversations and put that information in front of the commander. The model we use is a simple one: if you're an F-15 pilot today, and you're teamed up with an AWACS, it's interesting to watch how well we've mechanized that. The AWACS says, "Eagle One, we've got Bandits bullseye zero-eight-zero for forty." The Eagle driver takes a button on the throttle, slews the cursor over that contact, locks onto it, and the minute that happens, the system goes to work for you. And it provides for you: target altitude, target airspeed, target heading, etc. You don't have to run your mouse over it and say, give me the target altitude, give me the target heading. It does it for you automatically. It shoves it into your face in undeniable ways because we've trained that system that we need to get this guy before he gets us. It automatically has a conversation with the AMRAAM missile and says, "Mr. AMRAAM, when you come off the rail, look right up here, because that's where the target's going to be." It puts that information up in a heads-up display, it says: maximum range, minimum range, no-escape range. And for the fighter pilot who can't figure it out any other way, there's a big blinking light that comes on the hood that says, "Shoot!"

Now, the question is: if we can do that at the tactical level of war, why can't we do that at the operational level of war and our command centers? Why can't we take that functional equivalent of the cursor in the F-15, roll it over a digital map on a piece of terrain and lock onto it, and draw from databases and platforms wherever they reside or exist the data required to give the commander confidence that is truly the target that he or she thinks it is, and then go prosecute that target? And the answer is we can do that; we should have been doing this a long time ago. But right now we are in earnest.

Now we put this thing all together in a concept we call the Global Strike Task Force. It's a construct that we plan to pursue in our Air Force, this task force construct—a family of global response task forces that do various tasks. And the way we try to articulate this is what we call operational concepts. It's a science that's been with us for some time, but you know in the world of those of us in uniform, and in our dealings with the Congress, we often degenerate quickly to the program level. We like to speak in programs, and we start talking more about what we're going to buy before we decide how we're going to use what we buy. Often the popularity of the program overwhelms the operational concept that you would use to engage that program. We're going to try and turn that around, and with the help of General Glenn Kent over here, who's sort of the Godfather of strategy-to-task sort of thinking, we have come up with a construct for operational concepts that describe in a task force format how we plan to go and fight, how we plan to put things together, and lash things up to create effects. And we hope to be able to use this then to guide us in the programs that are most worthy and that we need the most. So this is the formula that we're trying to use as we transform ourselves in the technology aspect into this new way of doing war, of going to war.

And we see today a great deal of this being put to work. We see today, as much as we've been able to lash up of this already, that we're trying to use—between our ISR platforms and the bombers and the Navy fighters that are coming off the decks—trying to do this time-critical targeting we see going on in the war in Afghanistan today.

Next is the notion of readiness. We've been through a dark decade in readiness, and we are beginning to see ourselves turn around now and start to get the parts and the attention on maintaining our airplanes back as we watch the readiness figures bottom out and start back up again. Now we are a long way from where we want to be. We started Operation Desert Storm with mission capable rates close to 90 percent. Our mission capable rates today are climbing back up toward 80%, and we need to keep working on those numbers. The pilots are flying again; for the first time in seven years, the US Air Force will fly all of its flying hour program, and it's taken us a concerted effort to do that. That will continue to be a goal for the United States Air Force. Generating sorties is our product; that's what we put out for the nation, and we will continue to put emphasis on our flying hour program.

Our readiness in terms of aging aircraft then gets to our subject of recapitalization. We all know today—it's been widely quoted—that the average age of our fleet is twenty-two years old. If we buy everything that's on the books now, the average age of the fleet continues to rise. This gets us into why we think it's profitable now for us to look at getting out of the Boeing 707 platform and into a platform like the Boeing 767, which enjoys reliability rates with the airlines well above 95 percent, as we look at reliability rates in the Boeing 707 platform of about 75 percent. Just having that sort of reliability is the equivalent of having several more of any one type of platform. We have more than 100 Boeing 707 platforms right now at our logistics facility at Tinker Air Force Base in Oklahoma, just for corrosion and aging aircraft problems, those airplanes that used to spend about four or five months in depot status are now spending upwards of a year in depot status to correct the same problems just because of the aging problem.

I'd also like to touch on the subject of retention, and this gets to our people. We have made our recruiting goal easily this year, but we still have to work on the subject of retention. When you lose an NCO specialist out there with eight years of service, it takes eight years to replace that specialist.

And in the Air Force we are a very technically-minded outfit, and we want to retain the people that we spend all this money on. Not only that, they are marvelous people. I have had the privilege during my 35 years of experience of walking the flight lines during times of peace and crisis, and I will tell you that the young people out there in uniform—and I'm talking about uniforms of all colors—are the kinds of young Americans we should all be proud of. Even today, when we question the loyalty, the ability to commit of the younger generation, you go out to Lackland Air Force Base and you watch these youngsters come out of basic training, and you see the same scene every time: you see a mother or a father standing in front of his or her son or daughter; and the son or daughter is shaking them, saying, "Yes, mom, it is me!" They don't even recognize their own child that's come through the basic training process. In this Beavis and Butthead generation, it's easy to get cynical about commitment, about patriotism, about loyalty, until you go out and watch these youngsters, who are no less committed to their country than any generation that ever served. And I get to see that everyday. And you know what keeps me wanting to go, what keeps me wanting to wear the uniform? It's that: those youngsters out there who just want to do their duty. Now these are the kids we want to retain. And the reason we don't retain them is because we don't give them the resources to do their job. Now that's getting better, and with the help of the gentlemen arrayed up here in the front of the room, we have over time been able to turn that around and been able to show the youngsters out there that we are going to get them the resources to do their job. And then the other thing that they want is a little appreciation from their nation. We go through this pay raise thing every year, and it's great to see all the support we get for a pay raise. But, you know, it's not whether it's about 4.1 or 4.4 percent, it's about whether the Congress cares enough to give them something, to show that they're appreciated. And, again, with the help of the people we see up here in the front of the room, this happens year after year. And, gentlemen, I can't tell you how much we appreciate your support for all you do for us.

These youngsters are the lifeblood of the nation, and as we stand in uniform today, and we mix among the people of the country out there that are drawn together by this tragedy of the eleventh of September, people look to us in uniform for character, for strength, and we see it going back to some of the old family-based values and standards that most of us are more used to than the Beavis and Butthead standard that we've evolved into. And it's a pleasure to see that sort of respect for the nation out there on a day to day basis, and it's a pleasure for me to be able to represent those in the United States Air Force.

We have along the way now, as I talk about these bits and pieces, we have other things of interest. One of them is UAVs. UAVs have played a big part in the last five or six years in every phase of combat that we've been in. The Predator is a workhorse of an airplane. The Global Hawk is coming along. And these are being well-integrated into our workforce. I get asked all the time: do I feel threatened by the advancement of armed unmanned air vehicles, and the answer is no, I do not. We will have armed unmanned air vehicles in due course, and when the technology is ready they will take over some of the missions we fly with manned vehicles. There's no doubt in my mind. We don't want to push it any faster than it can reliably perform, but eventually it will come. There's no doubt in my mind.

Space. When I talk about space, I don't talk about aerospace, I talk about air and space. To me, space—as we learned from the Space Commission—is a separate culture. The physics that apply to orbital dynamics are different than what airmen experience in the air, and there's a culture that has to grow up that shows the same expertise in space as airmen showed after World War II in aerial

combat. We have to respect that, and we have to grow and nurture that culture until it matures. Space is a very big part of what we do everyday and will continue to grow in what we do in the future.

So we have a variety of things going on in our Air Force today. We have great people who are doing it. I couldn't be more pleased with the leadership we have out there today. Lieutenant General Chuck Wald is the Joint Force Air Component Commander in this war in Afghanistan, and he's doing a marvelous job, along with the other component commanders from the other services, all of whom I know. I thank you very much for the opportunity to be here today. It's always a pleasure to come and stand before this crowd. God bless each and every one of you, and God bless America.

Questions:

Q: Could I ask you to comment on what's happening in Afghanistan, particularly with the approach of Ramadan and winter weather—is this a big problem for what we're trying to do?

A: The question is will the approach of Ramadan and winter weather have an effect on operations over there? I'm not in on the operational execution of day to day. Of course, winter weather is always a consideration, and in the culture that abides over there, Ramadan is, too. Now what impact that's going to have I'm certainly not prepared to comment on, nor am I qualified to comment on how the commanders will deal with that. But in that part of the world those are considerations that certainly have the potential to impact operations

Q: Let me rephrase the question: do you think we need to achieve our goals before winter?
A: The President and the Secretary of Defense have been very clear that this is a long, drawn-out confrontation that's going to take a long time. So no, we will not complete all of our goals by the onset of the first snow or Ramadan. This is an ongoing operation.

Q: Gail Kauffman from Defense News. Can you explain the heightened role of the Air Force as the Homeland Defense issue seems to revolve?

A: Well, the Homeland Defense issue—we're very much involved with it today. I think today we have more than a dozen orbits up over the nation, largely manned by our Air National Guard. We were noting earlier that we have about 25 squadrons on alert. Back in the heyday of the old Aerospace Defense Command, that was the number of squadrons we had on alert throughout the nation, mostly around the perimeter of the nation, and of course today our focus is as much inward as it is outward. What I see evolving, though, is some resources put into better coordination between our air defense networks and the FAA, and more attention paid to the inward-looking piece of our defense equation, absolutely.

Q: Elaine Grossman, Inside the Pentagon. I was wondering if this deployment to Afghanistan is an example of more Global Strike Task Force Concept; and if you say it is, how is this atypical from what you've described?

A: Well, there are certain pieces of it there, but Global Strike Task Force is designed to be modularized for the need. There was really not much of a kick-down-the-door piece to this one

because the air defenses, while you certainly had to pay attention to them, were not as formidable as before. So I would say in a certain way it's an application: it's demonstrating the use of long range strike certainly from long distances. It's also demonstrating joining-up with the United States Navy, with the fighter aircraft that are coming off the deck; it's demonstrating the use of our tankers that are refueling both the bomber aircraft and the Navy aircraft off the deck; and [it's demonstrating] the command and control that we talked about earlier, trying to do the time-critical targeting—while it's not where we want it to be yet, is improving everyday with the equipment and the practice that we get as we evolve this technology. I think certainly aspects of it are there in its early stages, but we were just developing the concept when this thing kicked off, so we're doing all right, I'd say. Yes, sir.

Q: Congressman Dicks. Let me ask you this: one of the things I worry about is that there's an impression that we're adding a significant amount of money to defense, yet in the area of procurement—of getting new equipment—we're still, according to the testimony of all the services, somewhere between $30 and $40 billion short of where we need to be to modernize our forces. How are we going to deal with this problem, especially when we're involved in a costly war? Do you feel that this is still an issue?

A: Yes, sir. If we look at our force structure—and I think all the services would tell you the same thing—as we look at our aging force structure, we're looking at dwindling resources over the next few years, and we need to make sure that we keep our force structure up to the levels that are demanded by the world that we live in. Today we are stretched very thin, with our Air Expeditionary Forces. Those are our rotational forces that we use to feed the ongoing activity throughout the world, and what we found is we're having to reach forward two and three cycles to pull assets from our Air Expeditionary Force just to sustain efforts that we have now, especially in things like our security forces that are guarding at high-threat condition levels in the states as well as overseas. It used to be we'd just take these things out of the states and put them overseas in order to respond to the contingency overseas, and then [there's] the aging aircraft problem, which means that more of our fleet are out of commission because they're just getting old. These are things that we absolutely have to pay attention to, and we're counting on you, sir, to help us through that.

Q: Robert Wall with Aviation Week. I wanted to ask you about the Low Density-High Demand assets: there's an idea floating around—I think it came out of the House Intelligence Committee—to do with the ISR fleet what the Pentagon did with the standoff jamming fleet: consolidate it and have one service as the executive agent. So my question in two parts is (A) do you think the Air Force should get back into the EA-6B-like game and (B) should the Pentagon consider going the route of the EA-6B for ISR assets?

A: Well, I haven't heard that proposal, and I've have to take a close look at it before I'd be able to comment on it. I think we've done a good job of consolidating, and the EA-6B is an example where it was prudent to do so, but we also have to be very careful about taking that too far. There's a thing called centralization disease that leads to inefficiencies that we'd have to watch for in such a concept. I haven't seen that.

Q: Michael Sirak with Jane's Defense Weekly. General, is there the possibility that the proposed cuts to the B-1 could be rescinded based on the performance of that aircraft in the ongoing operations or other factors in the wake of September eleventh?

A: Our position is to stay with the current B-1 proposal. The B-1 is a great airplane, but the fact of the matter is that there was a $2.2 billion disconnect in what it was going to take to make the airplane fully combat capable across the fleet. When we go down to sixty, we have more combat capability. We have sixty airplanes that we will send to war, versus ninety-three that we wouldn't. So we want to stay with the sixty, we want them to be fully capable, and this reduction gives us the resources we need to make them fully combat capable.

Q: Tony Capaccio with Bloomberg News. Can you talk a little about the B-2's performance in terms of how it benefited from this time-critical targeting architecture you set up, versus did it fly over with pre-planned attacks or was there flex-targeting while it was crossing the Atlantic?

A: Well, I'm not going to get into what actually is happening, but I will tell you that during the Kosovo war we, in a bit of a fit of frustration, I got into my airplane in Germany and flew out to Whiteman, and sat down with the young Captains, and we figured out how to do flex-targeting with a B-2. The first night they flew over there using this concept we got two SA-3 sites. Those same procedures are working today in the B-2. Thanks to several pieces of equipment that Congressman Dicks forced into the program that the Air Force at the time didn't want, these things are working. To tell you the kind of equipment would tell you how we're doing it, so I'm not going to do that.

Anybody not from the press want to ask a question?

Q: Just in terms of the recent supplemental funding, I was wondering whether the Air Force was looking at accelerating Air National Guard modernization in terms of the continental US?

A: We have options in there to do that. Now how OSD is going to work out exactly how the priorities are racked and stacked in the big priority list, I'm not going to try and preempt. We do have items in our proposals to do that very thing.

Q: Sir, you alluded to the differences in culture between air and space. In relation to transformation, could you comment on what challenges you see for leadership development in the Air Force and what the Air Force may be doing to address those challenges in your ongoing Transformation bill?

A: First of all, we already have a great generation of space leaders, and we have a generation of people that have grown up in the space and missile world, or a combination of the air and space world, that are already great space leaders. What I think we need to do personally is to continue our work to operationalize space, to make certain standards, like we have, for instance, in the airlift world, where you have a missiles that has a certain dimension of satellite that it can take. And you standardize the size and shape of the satellite so that you can get into more usable and user-friendly standards. As you know today, each satellite is pretty much custom-built. Every vehicle is pretty much a test vehicle. And we treat them that way, but I think we need to continue this evolution into operationalizing space. And with that, then, we'll become the operationalized space warriors, many of whom we have today, and, by the way, are at work in the Air Operations Center that's prosecuting this war. It's an Air and Space Operations Center. They're prosecuting the war today, along with info-warriors as well. So these generations are developing, they're emerging, they're a

part of our warrior culture now, and it will just continue to grow. And we just have to recognize this as part of our Air and Space Force.

Q: Amy Butler with Inside the Air Force. I just wanted to ask you: can you talk to us about the status of your weapons stockpiles, CALCMs, TALCMs, and JDAMs, and do you think you need more to continue a war against terrorism?

A: Well, this is the status of our weapons stockpiles: they're below what we want them to be, but so far I think we're okay for what we foresee on the horizon, and we've stepped-up production of certain items, but for now I think we're okay.

Q: Can you talk about what items you've stepped-up?

A: We've stepped-up JDAM production, for instance. As you know we got quite low after the Kosovo war, and we pushed it back up again to make sure that we've got plenty of those. It's a very popular weapon and very effective.

Q: Bill Hoar with Periscope Military Database. What's your prediction for buying the Predator B?

A: We are looking seriously at the Predator B—and that's the turboprop version, not the jet version—because of its longer endurance and greater carrying capacity. We think that there's some exploration work to be done in the whole UAV culture that would allow us to set up certain networks. For instance, one of the things that we're doing in this network business is taking a look at a different way to build tankers. What is out there every time we have a war? Whether it's supporting carrier operations or our own operations, it's the tankers. And where do we put the tankers? We put the tankers as close as we can up to the area of conflict as they can possibly get so that when they refuel the airplanes they have the minimum distance to go to get to their targets. And they stay there and they orbit. I sat bolt upright in bed at two in the morning one day and said, "Why in the world wouldn't we put apertures on tankers? Hello?" Don't know why we haven't done that. Don't know why we haven't done that years ago.

So one of the plans is to put a palate of equipment on our tankers that translates data-link stuff one format to another, air-based data-links with ground-based data-links with sea-based data-inks so that everybody has the same picture, and you use this network of orbits to transmit this stuff around the battlespace to include targeting data to airplanes. Now the same thing can be done with UAVs. You fly one Predator—and the Army does this with their Hunter—and stretch the legs of it by just using it as an orbiting radio relay to the vehicle that's forward. You can use something like a Global Hawk UAV as a substitute low-orbiting satellite. You can put a network of these things up over the AOR just to shorten the path to fiber optics so that you can get great gobs of data flowing in and out of the battlespace. So these things with UAVs are things that will evolve, as well as taking advantage of what we already do, and that is orbit a lot of these airplanes in close proximity to the battlefield. I mean, imagine taking one of the tankers and putting an ESA antenna array along the side of it that would allow it to pick up signals, for instance, that are transmitted back and are processed somewhere else, just as receivers. Don't ask me why we're not already doing this. I can't answer the question.

Q: Jeff Smith, not from the press. A lot of our fighting is now coalition warfare. As you transform the Air Force how do you think about that? And in particular, how do you factor in the desire of the Europeans to play a greater role, and some of the tensions that exist on simple things as export controls?

A: Right. A very good question. The second part is hard for me to answer. I really don't know how we deal with the second part of that question. The first part of the question is a little bit easier. The good news for us about most friendly air forces out there in the world—and enemy ones as well, actually—is they all want to be like us. They see us perform, and they all want to be like us. So we have great leverage when we go into parts of the world, and we have the ability to lever our training capability to make their air forces more like our Air Force. That gives us leverage in the coalition context. Where we have a lot of work to do is the technology differential. There are sort of a few very basic entry parameters to be able to play in modern warfare. You need to be able to talk securely on a radio, you need to be able to identify yourself, and you need to have some entry-level form of precision weapons to get into the modern day fight. Those are the things that we try to encourage our alliance and coalition partners to get for themselves. One thing is sure about the last decade: we always fight as part of a coalition or an alliance, and the UN is usually asked to be the sanctioning body. As a matter of fact, as we saw in the war in Kosovo, we saw the fact that some of the Allied partners didn't want to play until the UN had made a ruling that it was all right. So this coalition piece is very important, we have some leverage in training, and we need to continue to press that.

Q: Otto Kreisher with Copley News service. You mentioned Global Hawk a number of times. The Air Force has four of them in their possession now. Is there any indication that you might use operational testing in-theater like you did with Joint STARS and Desert Storm, and what's the future for accelerating that?

A: Well, anything is possible is the answer to the first part of the question, and we are looking at options—again, I'm not going to preempt OSD over what options we will select—but there are options in there to accelerate Global Hawk. We have to remember that, just like Joint STARS, these are research and development systems. These are not operationalized systems, and they, in many cases, are duct-taped and scabbed-on pieces of equipment that make them work that require further development. So when we send these things, they are not sent with all the reliability that we would like to have in them, but as with J-STARS, when we do this we learn a great deal, and actually it's a good bed to do some of the testing that's required. So anything could happen. One more question.

Q: Seena Simon with Air Force Times. Do you see an increased role for Air Force fighter aircraft in the Afghan theater or do you expect the Navy strike aircraft to continue to play that lead role? And what are some of the issues that determine who will be going there?

A: Our fighters in the Air Force are playing a great role, and it happens to be over the United States of America, and that's a role they'll continue to play. Over in the Afghanistan theater, we're doing exactly what we should be doing: we're using the fighters off the deck to do that portion of the war, and we're using the long-range bombers. I've got no problem with that whatsoever. It's people who try to use any one war as a template for what's going to happen in the future that make the mistake. Just like Desert Storm, just like Allied Force over Kosovo, land-based air had the

predominant role, now we have another construct, and the nation has the tools to deal with it. That's the important part. What will happen in the future? If we need land-based air, and we decide to press for some of the basing that's been offered us around there, we can certainly have that option in the future. What the CINC and the Commander in Chief will do is going to be up to them. I don't take that as a vote against land-based air.

Ladies and gentlemen, I once again appreciate the opportunity to be here before you today. It's always a pleasure to come over here and see this enthusiastic crowd, and I appreciate it very much. Thank you.

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