

## THE TANKER AIRLIFT CONTROL CENTER (TACC)

Commanding a Fleet for Global Operations



THE FUTURE OF POWER PROJECTION

REPORT 10

# THE TANKER AIRLIFT CONTROL CENTER (TACC)

## Commanding a Fleet for Global Operations

The TACC provides a unique Command and Control capability which operates the U.S. tanker, airlift and inter-theater medical evacuation fleet worldwide. It is a unique asset. It is a core asset which underwrites U.S. joint capabilities and coalition operations worldwide. It is an asset always under stress and with 21st century challenges. These challenges range from cybersecurity to the age of its assets, the TACC is a centerpiece U.S. military capability which underwrites the spectrum of operations by the Joint Forces. Ranging from high to low end operations, the TACC provides the air bridge. The planning capability which resides in the TACC is a unique asset, one which needs to be recognized and fully funded in the era of financial scarcity. For without this capability, U.S. global operations would largely grind to a halt.

Several “pieces” make up the TACC puzzle. Several of these pieces are examined individually. These pieces include the weather, the tankers, the channel (the Fed-Ex like capability), aeromedvac, discipline, working with TRANSCOM, and the role of the barrel. This is a complex system worked from a single operations floor. Getting the pieces to come together on a case-by-case basis is the challenge.

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# TANKER AIRLIFT CONTROL CENTER (TACC) : SHAP- ING GLOBAL CON-OPS

## **An Interview With Lieutenant-General Allardice**

SLD visited *Tanker Airlift Control Center (TACC)* in April 2011 and several inputs from practitioners of the art of global mobility have provided interviews as well.



*General Allardice (credit: USAF)*

05/11/2011 – In preparation for Second Line of Defense’s visit to Scott AFB and the 618th Air and Space Operations Center (Tanker Airlift Control Center) which took place in April 2011, Lieutenant- General Allardice provided an overview and analysis of the role of the Global Mobility Enterprise as the backbone for joint military operations worldwide. Lieutenant-General Robert R. Allardice is the Commander, 18th Air Force, Scott Air Force Base, Ill. As Air Mobility Command’s sole warfighting numbered air force, 18th Air Force is responsible for the command’s world-wide operational mission. With more than 43,000 active-duty Airmen and 1,300 airlift and air refueling aircraft, 18th Air Force manages a streamlined organization that focuses the air mobility warfighting capability through the 618th Tanker Airlift Control Center (TACC), two expeditionary mobility task forces, 15 wings and two stand-alone groups.

The 18th Air Force and the TACC are true CONOPS commands. They organize U.S. tanker, airlift and inter-theater aeromedical evacuation capabilities worldwide. As such they manage the inevitable trade-offs between priorities and resources, as well as eke out capacity from a significantly aging fleet. It is also not generally realized that as warfighting strategy has evolved, the demand on these assets has gone up and their engagement OVER the battlefield has been enhanced as well. Historically, lift and tanking have been behind the front to support forces fighting forward. As the front and the rear become more of a marble cake, the insertion of force –including lift and tanking – has altered the deployed force mix. This in turn has accelerated the pressures on the fleet. Through a collaborative enterprise management system, the command has been able to much more effectively balance fleet capacity against requirements than they would be able to do without such tools. The Null hypothesis would prove that we would already have experienced inabilities to deploy if we did not have a robust fleet management system.



*In the aftermath of the devastating earthquake that struck Haiti on Jan. 12, nearly 70 members of the 615th Contingency Response Wing deployed to the Dominican Republic in support of Operation Unified Response*

*Photo Credit: [Contingency Response Wing, USAF](#)*

SLD: Could you provide our readers with a sense of the mission of the Command and how you have organized to execute the mission?

**General Allardice:** What we do and the “why” of our existence at the 18th Air Force level is to set the global mobility enterprise up for success. In simple terms we are the warfighting headquarters for AMC. What that means is that we support General Johns’ AFTRANS role by providing a robust mobility capability to the combatant commanders through U.S. Transportation Command. In practical terms, the first component of the enterprise is our active, reserve and guard air mobility wings in the continental United States. They generate the airplanes, the crews to fly them, and then of course, they generate airmen that deploy out into the world to support a variety of Air Force missions, many of which directly support our global mobility enterprise.

Another key piece of the global enterprise is our two air mobility operations wings. They support the enroute structure, 16 main enroute locations and numerous other bases operating worldwide in the Pacific, throughout Europe,

and in the Mideast. It's a fairly lean organization, ranging from small, two-person detachments all the way up to robust squadrons. They're the ones that catch the airplanes, refuel the airplanes, and fix the airplanes. If a crew needs rest, they'll make sure there's billeting for them, and they'll run a crew stage. Simplistically, what I say is they accelerate the flow of iron throughout the world. The third major piece is our contingency response wings, CRWs, and that's the expeditionary part. They're not fixed. The CRWs are made up of a variety of small teams, but in many ways the crown jewel is the contingency response group. These are the expeditionary groups that can go out and open up a bare base anywhere in the world. They are self-contained organizations, about 110 people. Their whole purpose is to act as a forward hub so that our airplanes can flow in, perform their mobility mission and flow back out again.

Simplistically, what I say is they accelerate the flow of iron throughout the world.

A key element of a contingency response wing is the mobility experts it provides to augment air operations centers, AOCs, throughout the world. For example, in the recent confluence of operations we were able to insert our mobility experts to plan and help organize our response to the concurrent demand. What we did with the Japan response, with the Libya response, with Southern Command where we had presidential lift requirements, and our ongoing support to Central Command, was to populate the enterprise with mobility planners from the CRWs. All of this is pulled together in two layers. Operationally we pull it together at 18th Air Force. Every day at 10 a.m. we bring together the enterprise, on a classified system where we talk about global operations.

SLD: I assume that meeting focuses upon managing the mismatch or the challenge of matching needs with capabilities, deployed capabilities?

**General Allardice:** Absolutely. That's exactly what we do, and at the TACC, they pull together the execution side of the effort. At the headquarters where I sit, our job is to set the enterprise up for success. TACC's job is to execute within that enterprise. My staff is very small. We only have about 40 people, and their task is to facilitate collaboration to shape the enterprise. At TACC, they have the cross-functional experts that execute the plan.

SLD: Could you give us a sense of how you handled all the concurrent crises in the past month?

**General Allardice:** The events of March give you an idea of how we balance capacity vs. requirements and swing from one theater to the next. On the basis of the approach and focus which I just described, at least once a week we look at what we'll call our enterprise in the United States, our enterprise to the West, the Pacific, and our enterprise to the East. When we look at the entire enterprise we look at the capacity of each of the places we're operating from, our hubs or lily pads, and we consider the following elements: We look at whether we have the right people, the right airmen, in place to perform the mission. Do we have the right equipment in place to perform the mission? Do we have the right infrastructure at a particular location to perform the mission? And do we have the right command and control systems in place to perform the mission?

Last year for example, we were flowing supplies to Central Command through Ramstein Air Base, Germany, and then the volcano went off, so immediately we wanted to start moving our flow. We looked at locations and said, "How much capacity would we need there?" Normally, we only needed to have two or three airplanes a day at a specific location but then suddenly we needed the capacity to flow to about 10 to 12 airplanes a day. Although we had the equipment in place, we didn't have enough airmen and our command and control system needed a little more robustness, so we immediately moved resources down from Ramstein to augment that capacity. And then a week later when the volcano got even worse, we decided that we needed to flow not to the East, but that we would

go around the world the other way through the Pacific, through a forward operating base in the Indian Ocean and up into Afghanistan.

We did the exact same thing. We looked at our enterprise. We saw what we had in place. We noted that we needed to augment the enterprise, and so we populated specific bases in a way that was sufficient to bring them up to the capacity that we required. We just turned on a dime and went the other direction and executed the mission that way. That was last year's example.



*C-17 Air Drop over Afghanistan*

*Credit: US Central Command Air Forces: 10/11/07*

We started the year in kind of a relatively easy pace, but of course, you know we have a heavy commitment to Central Command. We're flying multiple missions into Central Command every day. From here we're executing the C-17 airdrop mission. Every day we have at least two missions that airdrop in Afghanistan. On top of that we have all the other mobility aircraft, both commercial and gray tails, that are flying into Afghanistan. In addition to the very heavy commitment supporting Central Command, the President went to South America, and that requires us to do the prepositioning and depositioning for that mission set. We immediately identified eight different locations that we needed to have mobility expertise. We provided the appropriate capacity from the enterprise. We set up a Director of Mobility Forces at AFSOUTH to ensure that we had the right mobility expertise there, and we ran an enterprise south to make sure that the missions getting in place and coming back out worked properly. All of these combined efforts put us near our normal max capacity, and then the Middle East heated up.

As soon as we saw what was happening in Egypt we sent mobility experts to Central Command to look at the potential mobility implications. And then Libya started to kick up so we sent planners to AFRICOM to start planning either air refueling and/or airlift missions in case we had to respond. In other words, we looked at the enterprise to determine what we would need to respond to a Libyan crisis. We started identifying the different hubs we would require, what capacity we thought we would need, and we started to align ourselves to be prepared to flow forces there.

SLD: The focus is upon the hub for going from point A to point B, and you have to determine what assets you need en route to support an anticipated level of surging and force?

**General Allardice:** Right and I'll give you an example. When the situation in Libya started to evolve, it became evident we were going to have support operations with air refueling. We grabbed the refuelers that we were using to move fighters back and forth and placed them in Europe. We called up the air reserve component, the National Guard and Air Force Reserve Command, and asked them if they could generate a couple squadrons worth, and within about 18 hours, said go. We could do a quick assessment, place assets, and rapidly generate the capacity we needed.



*Credit: C-5 Seen being Refueled by KC-135, [Google Earth](#)*

At the same time, we didn't drop a single sortie for Central Command. We didn't drop a sortie going to Southern Command. When we had the earthquake on the 11th of March in Japan, we did the same thing. We sent planners out. We placed them at several different locations: U.S. Forces, Japan; Task Force 519; Task Force 505; and then at PACAF. We sent our liaisons and our mobility planners out so that we could effectively respond to the triple "Black Swan" threat that emerged: the earthquake and the tsunami followed by the reactor issues. All those things caused complexity in the problem set, and we kept adjusting our capacity based on the need. In some cases it was gray tail airplanes. In some places it was just mobility planners. When the Secretary of Defense signed the authorized voluntary departures for the return of the dependents out of Japan, we contracted civilian aircraft to go out and pick people up, and brought them back through SeaTac with military augmentation from McChord AFB, Washington, as well as through Travis Air Force Base, California. All those things we coordinated and moved people around, in order to be in the right place right time. And of course everything I'm telling you here, when I say "we", it's the big WE. Total force. We had the Guard, the Reserve and the active duty forces all involved.

Let me give you three examples:

First, the Director of Mobility Forces for the Japan operation was a reserve Brigadier General, Arlo Guthrie. He was in an exercise in Korea. He had just flown all the way back to Florida when I reached him. He was actually picking up his bags in Florida, and I said to him, "Hey, Arlo. Where are you?" "Well sir, I'm actually getting my bags." I then said "Well get back on an airplane and fly back to Hawaii because we need you there." And so this great, reserve general officer went right back out and he was our Director for Mobility Forces there.

Second, the person we have with NATO as our liaison is a guard wing commander out of Lincoln, Nebraska.

Third, the general that we picked out to be our expeditionary refueling wing commander was a guard wing commander from Pittsburgh.

So when I say a total force, I mean total force.

All those things we coordinated and moved people around, in order to be in the right place right time. And of course everything I'm telling you here, when I say "we", it's the big WE. Total force. We had the Guard, the Reserve and the active duty forces all involved. (...) So when I say a total force, I mean total force.

Given the flexibility of our approach we can scale to task. We conduct assessments on the capacity we need, almost daily. For example, we might ask "How much capacity do we need to support this operation at Libya?" We also moved several thousand people out of Japan. We provided planners and some airlift to support Japan, and now that the operation has dwindled down we've pulled our planners back out. We're drawing down that enterprise as quickly as we can because we don't need it anymore. On the other side of the earth we're watching our Libya support very carefully and we're trying to determine how much capacity we need there.



*Staff Sgt. Nick Kolesnikov, 3rd Airlift Squadron loadmaster, marshals a loader carrying rescue equipment to the ramp of a C-17 Globemaster III, March 12, at Joint Base Andrews, Md. Air transportation airmen from the 89th Aerial Port Squadron at Joint Base Andrews created 14 pallets of technical search and rescue gear, to include inflatable swift-water rescue boats, generators, trench rescue and cutting equipment.*

*Credit: 11th Wing Public Affairs: 3/12/11*

So what we do at 18th Air Force is try to continually assess the enterprise's capacity and make the necessary adjustments to that capacity. What General Cox does at the TACC is execute within that capacity. And if he thinks that he's got a shortage or something going on one place or another, he'll bring it up to the enterprise, and so when we have these collaborative sessions, we sort out priorities. These sessions are like a classified version of GoToMeeting.com. It's basically a slideshow on the computer. During the height of the concurrency of events last month, we had 134 different nodes worldwide plugged in.

For example, during a typical conversation, the person in Southern Europe will say, "Hey, I have an issue here." The Director of Mobility Forces up in Germany will say, "Well this is what I think I know." The guy supporting NATO will say, "Well here's the other side of that," and then the guy in the NATO air operations center in Italy will come back online and he'll readjust. And then back here in the TACC, they'll say, "Well here's what we'll do to solve that," and an issue will get solved in about 30 seconds during the enterprise discussion. Then all of the people in the subnets below, they hear that conversation. They understand commander's intent. They understand the capacity directives, and they'll spend the next 24 hours executing based on the conversations they heard. It is a collaborative enterprise in action.

SLD: If you did nothing but lift and tank to Afghanistan and Iraq, that would be a miraculous enough, and then the idea that you have multiple "Black Swans" as you're describing is even more challenging. The shortfalls have to be clearly there, and so then you have to manage to priorities obviously as well. It seems you've crafted a system that would get best value out of any of the new assets that will be inserted into the fleet.

**General Allardice:** As we shape our collaborative efforts, we clearly feel dedicated to the effort to maximize the taxpayer's investment, and I mean that in terms of both the iron and the aircrews. You want to squeeze every bit you can out of every airframe.

SLD: And unfortunately, that's what you're forced to do, notably given the age of the tanker fleet.

**General Allardice:** I'm qualified in the KC-135, and when I flew the first one, it was born the same year I was, and I wish I was still a very young man.



*Chief Warrant Officer 3 Joshua Hughes, aerial delivery for the 101st Sustainment Brigade, Sgt. Samuel Geerts, a rigger for the 11th Quartermaster Detachment, and Col. Michael Peterman, the commander of the 101st Sust. Bde, load bundles of fuel on to a truck as part of an aerial delivery using the Joint Precision Air Drop System*

*Credit: 101st Sustainment Brigade, 101st Airborne Division Public Affairs, 03/01/11*

SLD: And the age of the fleet clearly affects readiness and availability and makes planning more difficult as well. The downtime and maintainability of the older aircraft really do affect availability rates.

**General Allardice:** Absolutely. I think that in our calculus, we have to look at non-mobilized and mobilized, partially mobilized and fully mobilized, and contingency because you need to look at a system capacity...and that's what we pay attention to. Obviously, we want to operate at a certain capacity, and then if a demand goes up like it did during the simultaneous Libya, presidential lift, and Japanese events, we had a situation where we had to generate capacity beyond normal levels. In fact, we generated beyond what we normally consider mobilization triggers. None of these three situations endured, so we were able to get up quickly and come back down. But at some point you hit a finite ceiling that you're not going to be able to press past without full mobilization. If you surge an airplane that has an 85% mission capability rate, you surge it and push it to 100%. The general rule of thumb is it's going to buy back that extra 15% eventually, so we may be able to get 100% for 30 days, 60 days, but then it's going to drop down to 60% to make up for the surge. After all, it's the average. And the older the system gets, the more time it needs in depot. The more we surge it, the more depot time we need as well.

SLD: And air mobility has become central to the way we fight, to the way we do air operations currently. And the fraying of the infrastructure has its impact.

**General Allardice:** I think that the mobility system is a key part of how we fight. We depend upon rapidly getting to the fight, and that's totally based on the capability of global reach. Many people like the outcome but may not fully understand and appreciate the cost of that and how much we're cutting the margin as we continue to age the fleet.

SLD: Could you talk about the whole revolution in airdropping?

**General Allardice:** Absolutely. Right now, I would say we are in the longest sustained airdrop in history. Since 2005, we've been airdropping virtually every day. We've doubled or tripled our load every year since then. Last year we dropped about 60 million pounds of supplies. This year we'll exceed 100 million. The interesting thing is the revolution or leaps in the technology of not just the delivery but the rigging, as well as our understanding of collateral damage, et cetera. We understand that when you're dropping a pallet if it goes off the drop zone or even if it's on the drop zone, if it kills somebody that's no different than if a bomb killed somebody, so we really focus on that. I think there's been a tremendous revolution and improvement in our airdrop rigging, and accuracy; and when you get into the Joint Precision Airdrop System, the JPAS, that's even higher.

SLD: When you put that data out there about air dropping trends, it's impressive in and of itself, but when you think of the CONOPS implications they are significant as well. I don't even need to use roads to actually start inserting a force. Interestingly for the Marines when they're looking at the amphibious ready group (ARG) and what they could do with the future ARG, with their MC-130Js that can land in 3,000 feet or less, the Ospreys and the B's that they could put basically on almost any paved highway worldwide. They could be anywhere in the world, and then people say, "Well how would you supply them," and I would say, "Well what do you think we've been doing in the last ten years?" So if we marry up this revolutionary air dropping capability with projection of force from the sea, we could have a much more flexible and powerful insertion force if we wanted to.

**General Allardice:** I agree. Our new air dropping capabilities can be used to support our global operations in new and innovative ways. And honestly, innovation is really the essential takeaway. Through collaboration we are able to optimize the performance of the global mobility enterprise and orient it toward the effect we need. There will always be a tension between capacity and requirements, but we have found a way to manage it that allows us to respond rapidly and address those tensions in ways that would be much more difficult without the processes we have in place.

# GLOBAL AIRLIFT, TANKING AND MEDEVAC MISSIONS AND THE TACC

## A Roundtable with Subject Experts at the Tanker Airlift Control Center (TACC)

05/04/2011 – During a mid-April 2011 visit to Scott AFB, *Second Line of Defense* sat down with a group of subject matter experts involved in planning and executing *Tanker Airlift Control Center (TACC)* missions. This is a unique command, which directs — via a collaborative command and control enterprise — all U.S. tanker, airlift and aeromedical missions operating across theaters. It is a true global command, and as such must make regular trade-offs matching assets to priorities. The wide-ranging conversation covered the planning approach, the operational dynamics, and the management of priorities worked by the TACC. The TACC works closely with the regional COCOMs as well as TRANSCOM in shaping a global delivery system of goods, personnel, and air combat capabilities.

The interviewees and their subject matter expertise were as follows:

- Col Jeffrey Mintzloff – senior controller – addressed command and control for missions while in execution;
- Maj Corinne Bonner – addressed tanker allocation;
- Maj Christopher Fuller – addressed airlift planning for missions into Iraq/Afghanistan and for humanitarian operations
- Maj Charles Marek – addressed aeromedical evacuation planning/operations
- 1Lt Adam Bennett – addressed weather forecasting/planning
- SMSgt David Abuya – addressed the role of command post controllers
- MSgt Jeremiah Love – addressed tanker planning
- Mr. Harold Guckin – addressed airlift planning for channel missions (the Fedex/UPS equivalent).

The planning and operations directed by the command are highly collaborative. Most of the key elements for shaping the planning and operation C2 functions are located on the operations floor, which creates a highly collaborative enterprise in order for the command to be flexible in meeting demands. The “barrel” is the term they use for the group within the command which makes trade-off decisions or recommendations. The team presented several pieces of the enterprise effort.

First, there is the planning piece. The planning piece is worked closely with TRANSCOM. And the effort is an ongoing one looking at constraints as a part of the process.

As Major Fuller put it: *We try to advertise what the capacity is but it's difficult to always hammer it down. We'll put a tail request in and then we're somewhat at the mercy of what the barrel has available to give us. The user will give us a window to move their stuff with an available to load date to a latest arrival date. That window is usually no less than three days but it can be longer depending on the size of the movement and we'll put that tail request in to the barrel and then the barrel will allocate us aircraft based on global availability.*

Second, there is the question of highlighting what can go by commercial versus gray tails, the term for USAF lifters. Over 80% of the lift done by the command is done commercially and is managed by what they call the Channel Missions.

Third, there was much discussion concerning the challenge of prioritization and managing trade-offs.

But as Col. Mintzloff put it: *You have to maintain the discipline in the system. Is it approved? If it's something outside of the*

COCOM, through OSD, is it approved? Is it funded? Is it authorized to move? To keep discipline in that system is a challenge because airlift can often be an emotional thing. I need my “something” and I need it now. Or in the case of a humanitarian type of operation, they need it and they need it now. It still needs to work through the wickets.

Fourth, discipline is crucial for another reason. The C2 fleet-wide management is highly correlated with the military’s global logistical supply chain. The key is to shape realistic behavior on the demand side with regard to when parts and elements can be delivered, and to move appropriate items to be shipped by sea and have them taken out of the air delivery system.

As Col. Mintzlaff underscored: *If you predict out far enough, you can move it on the ship and get it there. The other piece would be the reliability part. If you’re sitting in the Philippines and you know that when you order a part it’s going to take 24 days to get there, or 14 days to get there from the time I order until I get it in my hand, then you start to build your processes around that. Where you fail is when one time it’s there in a week, or two or three times, and then it is 24 days. Now he doesn’t know what to do. Now he’s ordering more than he needs.*

Fifth, the demand for tankers is significantly greater than supply. MSgt Jeremiah Love commented that: *We just don’t have the tankers we used to have at one point in time. Even in the couple of years that I’ve been here, our number of taskings have gone up that much. This is also due to the very different use of tankers in the battlespace. Both lifters and tankers now enter the battlespace that was inconceivable twenty years ago.*

As Col. Mintzlaff, a KC-10 pilot put it: *When I did Desert Storm, tankers were way in the rear. When I was in Afghanistan, we were looking down on the battle. When you bring that many assets that much closer to the fight, you start opening up the door to other things that can go on an airplane to help the folks on the ground. These are things like helping with the convoy and mitigation as well as communications. I think as you change the way you fight, you need to take full advantage of the assets that are there to be used and figure out how to use them.*

Sixth, the aeromedical system has been revolutionized by the ability to put modular capabilities onto the standard airlifter, rather than relying upon specialized aircraft. The task now is to marry kit to the lifter closest to where it is needed in order to medevac folks back to stateside medical facilities. Maj Charles Marek commented: *I think the average patient return from Vietnam was 45 days. In Desert Storm it was about ten days to get back to the U.S. Today, we’re down to three.*

Seventh, a key element of the challenge is the ownership issue. TACC can task only those assets it owns, and most of the tankers are in the reserves. As “Madame Barrel” or Maj Corinne Bonner put it: *The demand for tankers significantly outweighs the availability of assets. Some of that goes to the fleet structure as to who owns what assets. At TACC, we can only physically task active duty assets, unless we have some sort of contract, whether it’s long-term or short-term, with guard and reserve assets. So in real terms, we can’t task those assets if (a) we’re not paying to use it, or (b) it hasn’t been mobilized.*

In short, as Col. Mintzlaff summarized the effort:

*I think the system really works remarkably well. The key to success is collaboration. Everybody’s right there on the floor and you can talk face to face. Sometimes you still get things that slide through. But if there’s a big issue that comes up, you pull everybody together at the table. You sit there. You paint a common sight picture, or they paint it and push it up to the senior. The senior then makes a decision, or if it needs to be upchanneled, then you up channel it. And it really works remarkably well.*

# INSIGHTS FROM THE TACC

## A Wrap Up Discussion with Captain Brockhoff

06/16/2011 – After an overview briefing and a visit to the Tanker Airlift Control Center (TACC) command center, Second Line of Defense sat down with Captain Brockhoff to focus on several items highlighted in the morning briefing. Captain Justin Brockhoff is the Chief of Public Affairs for the Tanker Airlift Control Center.



Operations Floor TACC (Credit: TACC)

**SLD:** The argument presented around the table was basically that the C2 capability of the Command gives you an ability to deliver capability worldwide and allows you also to deploy assets up against shifting priorities.

**Captain Brockhoff:** The same way in your writings on SLD where you talk about the 5th generation capabilities forcing us to radically re-look at our con ops, look at our approaches, the honeycomb vice, the network way of looking at things, the TACC is always looking for ways to maximize the effectiveness of our global airlift, air refueling and aeromedical evacuation operations.

**SLD:** In the briefing, the team discussed the significant shift in how aeromedical evacuations trans-theater is approached. Could you discuss this shift?

**Captain Brockhoff:** One of the real changes over the past decade is that we have gone from a dedicated aeromedical evacuation platform, the old C-9 Nightingale, to modular insertion into a wide range of available lifters. We went from one airplane doing that kind of mission to a structure where really any Mobility Air Force aircraft can be converted to be an aeromedical evacuation platform.

Today, primarily, we use the KC-135s and the C-17s, because the equipment in the back end for the air medical evacuation mission can be moved from airplane to airplane. The equipment is not hard built into the airframe itself.

SLD: So the aeromedical evacuation equipment is configured as modules?

**Captain Brockhoff:** Correct. And they are tailorable modules based on the patient requirements. So if we just have a flight with routine patients, the ones that have to move within 72 hours but do not have a threat to life, limb or eyesight, we'll usually have a standard aeromedical evacuation crew on that mission. And that usually involves a nurse, two medical techs and two respiratory technicians to care for the patients in flight.

Taking it a step further, if there is a patient that is either a priority patient, they have to move within 24 hours, or an urgent patient who has to move immediately, that's when we step it up and the patients can require what we call a critical care air transportability team; where we add on a flight surgeon and additional flight nurse and more respiratory and medical technicians. And they're there to care for that specific patient who is in such a dire circumstance that they need to move immediately.



U.S. Air Force Airmen, assigned to the 451st Expeditionary Aeromedical Evacuation Flight, transport patients from a C-130J Super Hercules to an ambulance during an Aeromedical Evacuation mission to transport patients from Camp Bastion to Bagram Air Base (Credit: USAF 06/19/2010)

The flexibility that is provided by being able to use any aircraft in the mobility fleet is extremely helpful because we can use an airplane that's already in the area instead of being in a situation where the nearest dedicated airplane might be a couple hours away. We can reduce the response time by just converting the airplane that we have available into an aeromedical evacuation mission.

SLD: In the earlier meeting, there was a case study of an army officer who'd been stabbed in the head in Iraq cited as an example of the system operating.

**Captain Brockhoff:** The case was that of army Sgt. Dan Powers who was on a foot patrol in Iraq and was stabbed by an insurgent with a knife that actually went through his temple about three to four inches into his head. Amazingly, he stayed conscious, and was moved to a field hospital in Balad, where doctors were able to remove the knife from his head.

The next step was Sergeant Powers' follow-on care. The doctors on the ground determined that he had to be moved back to the United States in order to receive that follow on care to sustain the life saving that they had already done. From the TACC perspective, we got involved as soon as the doctor said this person needs to fly straight from Iraq back to the US.

The first step by our aeromedical evacuation experts on the operations floor was to see what assets were available. And since we can reconfigure almost any mobility aircraft to fly an AE mission, we found a C-17 that was relatively near to Balad, and we re-tasked the air crew from a cargo mission into Afghanistan to move Sgt. Powers from Balad back to the US.

Within three hours of getting the call at the TACC, and because of the flexibility that we have, that aircraft arrived to Balad, and was reconfigured by adding all of the equipment for the aeromedical evacuation mission. Sgt. Powers was loaded on the aircraft shortly after it was reconfigured, and they were airborne.

At the same time, the doctors placed a restriction on the mission because of the pressure that was involved with Sgt. Powers head injury. The C-17 was going to be limited to about 27,000 feet, and since it was already a long flight anyway, we knew a non-stop trip would require air refueling.

Our tanker cell on the operations floor contacted the tanker unit in the UK where the Air Force has KC-135's and we coordinated with them to launch one of their KC-135's that met up with the C-17 over the Atlantic to provide in air refueling.

The result was that Sgt. Powers wheeled into the hospital room in the Washington D.C.-area in under 20 hours from the point that we got the phone call.

SLD: And the result ultimately was that Sgt. Powers returned to his unit; and celebrated his return to his unit by joining a parachute jump. The case of Sgt. Powers certainly highlights personal courage and team support. The best of what the U.S. military brings to the table. Also discussed at the briefing was a good example of the fuel savings of the M vs. the C5-A. Would you go back over that?

**Captain Brockhoff:** That involved what we call a multimodal operation. In this case it was rotating a combat aviation brigade and their helicopters into Afghanistan to replace their sister brigade that was re-deploying back to the U.S.

The trip started with about a hundred army helicopters being loaded onto ship here in the U.S. The ship then went to a location in Western Europe where the helos were offloaded from the ship and transloaded onto C-5's. We had two C-5 M's and two C-5 B's dedicated to this swap out.

From there, once the helicopters were loaded onto the C-5s in Europe, the aircraft would fly to Afghanistan where they would offload the in-coming helicopters and then onload the ones rotating out.

After that swap out in Afghanistan, the C-5 B's would have a scheduled fuel stop in Iraq on the way back to the operating location out of Western Europe. But the C-5 M's, because of the newer engines were able to over fly that fuel stop that was required for the B's.

(For a discussion of the C-5M see <http://www.sldinfo.com/?p=3483>).



*Soldiers spot a UH-60L Blackhawk while it is being loaded onto a C-5 Galaxy, Mar. 2, 2011, at Kandahar Airfield, Afghanistan. The Blackhawk upload was part of a change out; the old helicopters are being replaced by new airframes. (Credit: USAF, 03/02/2011)*

SLD: One more thing would which you mentioned was what I will call the self-healing maintenance system. The fact that you have within the system the ability to get information about folks maintaining your fleet, who can be requesting parts and then you can actually schedule the parts to go out to where ever the location is. Could you just go back over this?

**Captain Brockhoff:** On our operations floor, we have a dedicated cell of maintenance experts. Here at the TACC, they're all senior NCO's; so they are very experienced maintainers themselves who have either seen the issue or the guy next to him has probably seen the issue that whatever the maintainers actually fixing the airplane are facing.

For example, let's say we have an aircraft at Bagram Air Base in Afghanistan which needs repair. The maintainers on the ground are the primary guys to work the issue, but through the command and control systems and direct interaction through phone call they report to us what the problem is, when they think the airplane's going to be fixed, and importantly any parts or additional maintenance personnel that they're going to require to fix that airplane.

If there is a need for additional parts or maintenance personnel, from the TACC, we can look into the system and see where the nearest part is located, we'll say for example it's at Ramstein. From there we can reserve a pallet position on the next available mission going from Ramstein to Bagram, and now we have a pallet position to put that part or that maintenance team that needs to go forward.

And then we put it on the aircraft, get it to where the part and the people need to be to make a difference to fix that airplane and because of that command and control structure we have from here, in over 90% of the cases, our aircraft are fixed within 48 hours.

## THE WEATHER PIECE AT THE TACC

05/27/2011 - First Lieutenant Adam Bennett led the discussion at the *Tanker Airlift Control Center (TACC)* of how weather planning figures into both the planning and execution of the TACC missions.



*Working the Weather Issues in the TACC Command Center*

*Credit: TACC*

SLD: What do the weather planners do on the TACC team?

**Bennett:** We ensure seasonal weather threats are taken into account during the planning stages of a mission. For example, tanker planners will come to us and say they are considering looking into changing where tankers are stationed. We'll take that information and build a climatology brief for them highlighting seasonal weather impacts (thunderstorms, ceiling/visibility restrictions, wind gusts, and temperature) at each airfield they are considering.

SLD: A cycle manager, basically.

**Bennett:** Yes. On the operations side, we continuously monitor the current weather and forecast up to 48 hours in advance. We'll take the forecast and issue weather threats that may impact TACC missions, and we'll work with the flight managers to mitigate these threats. For example, if for some reason an airfield's ceiling and visibility conditions go below their prescribed minimums; a volcano erupts; or there is a hurricane out in the Atlantic; we'll work with the flight managers on the floor and the execution people to tailor the mission around the threat and make sure the delay is minimal.

My job in TACC is to take the weather information from both the operations and planning sides and present it to the General Officers during their daily operations briefing. I advise the General Officers of what the current weather threats are and what we are doing to mitigate those threats. For example, I'll brief them about a dust storm affecting operations in Iraq, and advise them of what mitigation efforts are being conducted.

SLD: You're taking the daily operations plan and you're saying "nice plan, but here's the weather forecast I'm putting up against your plan"?

**Bennett:** That's correct. Yes. As weather forecasters, we can't vector their plan; that is reserved for the Air Traffic Controllers. But, we can advise them on a better route.

And where we sit on the floor is very crucial for operations. We sit right next to the flight managers, so we can easily communicate the weather threats to them. We're also sitting right next to aeromedical evacuation folks. If they have something that pops up, they can quickly ask us for weather information and we can advise them on current weather threats. We are also centrally located for the planners.

SLD: What are the biggest challenges to getting it right, from your point of view?

**Bennett:** I think the biggest challenge that we have is staying horizontally consistent. We're not the ones actually writing a forecast for every single location across the globe. That would take hundreds of forecasters. What we do is to take forecasts from other Air Force units and modify them to make them relevant to TACC missions.

The challenge is the collaboration process and coming up with a forecast that multiple forecasters can agree on. The goal is to provide a single accurate forecast rather than multiple, slightly different ones.

## THE TANKER PIECE AT THE TACC

### Matching Limited Assets Against Significant Demand

**05/19/2011** – The Tankers are clearly one of the key mobility assets in significant demand. However, given the age of the fleet, readiness is an issue affecting availability. Master Sgt. Jeremiah Love kicked off the discussion at the *Tanker Airlift Control Center (TACC)* about the tanker piece of the TACC puzzle during the roundtable. Col. Mintzloff, senior controller, added some important operational comments as well. Major Charles Marek also added some comments with regard to the KC-135s and aeromedical evacuations (AE).

**Love:** We deal with anything from the Coronets with fighters moving to and from the states or any [tanker] support to and from overseas locations, to more short notice type events such as contingency and Presidential support. The Coronets are probably the most dynamic as far as planning and movement of assets just because it's so much iron being put up in the air at the same time. Taking three or four tankers to support a 12-ship fighter deployment from the states to an overseas location requires a lot of coordination.



*Master Sgt. Love During the SLD Interview April 2011*

*Credit: SLD 2011*

SLD: How do you work the short and long-term planning issues?

**Love:** We have three different divisions: Coronets, Short-Notice and Homeland Defense Tankers, and within the Coronet branch, we have a long-range and short-range planning. Our long-range Coronet planners take a look at the overall big picture according to ACC's requirements, and determine what the tanker requirements are. The long-range planners work hand-in-hand with the barrel because ACC [at times] may want to move a very large number of fighters all at one time, or within a two-week period, but the tanker assets just aren't available. Another planning concern is they may need a particular type of tanker, such as those required by the Navy because some of their assets require soft basket air refueling.

That might require managing the tradeoff of KC10s versus the 135s in the ratio. That is why our long-range planners work with the barrel very closely. During the mission launch, our detail planners actually come in and help assist the execution side of the house. They try to be a one-stop shop. The other two branches mostly work short-range taskings. The Homeland Defense branch primarily works Operation Noble Eagle taskings, this could be anything from supporting NASA to the President, or special events such as the Olympics. The short-notice branch, like the Coronet shop, works tanker requirements around the world. Anything from air bridge requirements at various locations to state-side support like high-priority test missions, exercises, and contingency operations.



*The TACC operations floor Credit: TACC*

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SLD: What's the biggest challenge that you face from dealing with managing the tanker supply?

**Love:** It's having enough assets available because there's a huge demand for the tankers. No matter where it is around the world, there's such a demand for them that we just can't be everywhere at the same time. So, we balance out the requirements while trying to stay within the priority system (i.e what's higher JCS priority than the other). We just don't have the tankers we used to have at one point in time. Even in the couple of years that I've been here, our number of taskings have gone up that much.

SLD: Another aspect of the tanker issue which I think is not really focused upon outside of the USAF is the changing role of the tankers. Historically, tankers were at the rear of the action. Now they are part of the battlespace.

**Mintzlaff:** When I did Desert Storm, tankers were way in the rear. When I was in Afghanistan, we were looking down on the battle. When you bring that many assets that much closer to the fight, you start opening up the door to other things that can go on an airplane to help the folks on the ground. These are things like helping with the convoy and mitigation as well as communications. I think as you change the way you fight, you need to take full advantage of the assets that are there to be used and figure out how to use them.

**Marek:** We're now utilizing KC-135s as well for aeromedical evacuation. The KC135s have patient support pallets, which have both seats and litter stanchions built on them. They just clip right into the aircraft or some actually have just seats or just litter stanchions.

## THE AEROMEDICAL EVACUATION PIECE AT THE TACC

**06/26/2011** – In the roundtable at the *Tanker Airlift Control Center (TACC)*, Major Charles Marek led off the discussion of the aeromedical evacuation operations of the TACC. The command focuses upon inter-theater lift while the CO-COMs focus on intra-theater support. A key strategic development has been a shift from relying upon specialized support aircraft to providing modules throughout the fleet to provide for aeromedical support. This significantly changes the approach to such operations.

SLD: We were discussing earlier the role of modules inserted into lifters as opposed to the use of specialized aeromedical aircraft. Where are the modules kept?

**Marek:** They are stored in our various strategic hubs. For the C-17s we have things like the litter stanchion augmentation sets and those help give us more litter stanchions if we have patients that are critically injured. For the KC-135s, we have patient support pallets, which have both seats and litter stanchions built on them. They just clip right into the aircraft. Alternatively, we have some that are just seats or some that are just litters.



*Major Marek during the SLD interview April 2011*

*Credit: SLD 2011*

**SLD:** And these are stored at major air bases?

**Marek:** Correct, at hub locations. We can then fly them to the air base from which we are going to fly the patient.

**SLD:** There has been a significant increase in the survivability of wounded servicemen. Presumably, this system is part of the reason why.

**Marek:** It is due to two factors. First, it is due to the way we can get to the patient within the first hour of injury. The Army and the Marines use their Medevac rotary wings to do most of that. They get to the patient and get them to the hospitals that are located in different strategic locations throughout the theater. Second, it is due to our ability to move the patient from there to longer, more definitive care, say to Ramstein or back in the states. If we get a call that we have a critical or an urgent patient that needs to be moved we'll work with the DO/DDOs, BSD, TDD as well as the "senior" on the floor to select the best mission that will meet the request and cause the least glass to be broken in the system. It could be a mission that's already in execution and we could be kicking off cargo. But our first action is to find a mission that is going back empty or a minimum amount of cargo so that we can still get that cargo to where it needs to go. In addition, we would also work with the tanker guys if the mission required an aerial refueling to get that patient back (depending on the actual distance).



*U.S. Air Force Master Sgt. Zachary Johnson, 451st Expeditionary Aeromedical Evacuation Flight, aeromedical technician, cares for a patient during an Aeromedical Evacuation mission to transport patients from Kandahar Air Field to Bagram Air Base July 19*

*Credit: US Air Force, 8/20/09*

SLD: When did this system operating now actually begin to come together?

**Marek:** Pretty much in the last 5-10 years. The main shift has been from using dedicated aircraft to AE delivered by any opportune aircraft.

SLD: What were the dedicated aircraft?

**Marek:** The C-9 Nightingale (which was the military version of the DC-9 airliner). And the C-141 was also one, as well.

SLD: What's the biggest challenge to making this all work from your point of view?

**Marek:** It is not knowing the location of our tasking. We don't know who's going to get injured and when. And then there is the challenge of trying to get the technology into the back of the aircraft, such as radiological technology (to do radiographical pictures) and sending that information back to the facility to give them a heads up on what's coming their way, as well as providing electronic health records.

The progress has been significant. The average time to return a patient stateside was 45 days in Vietnam. In Desert Storm, it was ten days to get back to the U.S. Today, we're down to three.

**Col. Mintzlaff:** *And the equipment they carry is pretty incredible too. If you go to the Pacific, it's really a good quality of life for U.S. military families. For example, in the case of neonatal, you see the equipment come up and they can transport somebody from incredible distances, whether you're going from Kadena to Hawaii or back to the states with an infant baby.*

*Sometimes we overlook those normal things because we focus so much on getting wounded warriors home quickly. But we're moving neonatal babies in the middle of nowhere with an airplane setup that will take just that baby and mom to a hospital. And it's not just one aircraft. It could be four or five different aircraft. One aircraft could be coming out of Balboa Medical Center*

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*with personnel to help take care of that baby. And the equipment's coming from another location, so another aircraft might be bringing that to get it all married up into one location to pick up that neonate. We do that for anyone, not just neonates. We do it for coalition partners as well.*

## CHANNEL MISSIONS AT THE TACC: LEVERAGING COMMERCIAL CAPABILITIES



*Harold Guckin during the interview, April 2011 (Credit: SLD)*

05/19/2011 – A key element of TACC execution is its ability to leverage commercial air assets and to run the USAF variant of FEDEX. This effort is referred to as airlift planning for channel missions. During the roundtable, Harold Guckin led the discussion of channel missions. The channel missions are the regularly scheduled flights that fly a fixed route and operate on a fixed schedule.

**Guckin:** The XOG directorate receives TRANSCOM requirements and formulates a routing, like FedEx would do in order to service their customers in the most efficient way possible. Most of XOG's planning is done based on historical data. Just like FedEx doesn't have any projection of what's coming in their door or of what a customer's going to ship, planning is done off assumptions from the past.

SLD: So you're laying down your map of expectant behavior as the basis for planning?

**Guckin:** Yes. We lay out a basic plan. We then go into the barrel and figure out how many organic tails they can give us. We evaluate how much outsized cargo we might have based on historic data (i.e. cargo too big to fit on a 747; items such as 20-foot pipes). We then plan the effort to augment our gray tail forces with civilian contract charters. Right now about 80% of our lift is commercial vs. organic.

SLD: You have gotten your projected demand from historic rates of need for delivery of certain categories of equipment. You're going in to the barrel and you are inputting your expected demand structure forecast over the next couple weeks. I would imagine that you'd be a lower priority if a higher priority comes in, so now you've got to handle the slack and the complaints from theater that "I didn't get my pipes" or whatever. So, you're trying to manage the slack to meet your customer's requirements.

**Guckin:** Correct. And sometimes commercial assets are available and sometimes they are not. You get around Christmas time when commercial business is making more money and they don't bid on a DoD route.



*Working co-ordination on the TACC operations floor (Credit: TACC)*

SLD: How is commercial contracting handled and managed?

**Guckin:** The contracting is done by TRANSCOM. We do a fixed buy for an annual amount of tonnage of freight, projected for a year out. When they contract with us a lot of times, we will want them to do a round trip, to bring cargo over and back, but they will only bid on the cargo going one way. They will wish to use the return trip to go to places they go to pick up commercial freight.

SLD: What's the biggest challenge you face? It sounds to me like managing the shortfalls in daily activity might be the issue.

**Guckin:** It is. The biggest challenge is meeting the unknown surges of cargo. Dealing with shortfalls on airlift that you were planning to have (i.e. the gray tails), but which you don't get because of higher priorities or maintenance impacts. We can't give you an airplane that we don't have to fly.

# CRAFTING SOLUTIONS AT THE TACC IN DIALOGUE WITH USTRANSCOM

## The Planning Piece



*Major Fuller During the SLD Interview (Credit: SLD)*

06/16/2011 – Major Christopher Fuller of the Tanker Airlift Control Center (TACC) kicked off the roundtable by discussing airlift planning for missions into Iraq, Afghanistan and for humanitarian operations. A core part of the discussion was the challenge of plans being affected by the chaos of reality.

**Major Fuller:** I'm the Chief of the Global Readiness Directorate's Central Asia Planning Division. Really what we do is interface with TRANSCOM. When a user (including all of the COCOMS, various government agencies, etc.) has a need from airlift, their request first goes to TRANSCOM, where the requirement is validated and vetted. Once TRANSCOM approves the request, the requirement then comes to us in the TACC to plan, task, and execute.

We have feasibility experts in TRANSCOM who are actually located in our fusion center who will look at the requirement first. They'll recommend what they call a 'T' on that requirement that means it is air transportation feasible. They'll determine if the requirement meets certain criteria to qualify for airlift on one of our gray tail assets.

Once TRANSCOM makes that determination, they'll send it over to us in a news group; we'll then shape that requirement and determine into which airframe it needs to fit. 99% of our airframes are always C-5 or C-17. On the rarest of occasions, we can task a C-130. Being a strategic global mobility enterprise we usually operate in larger aircraft lanes.

SLD: The requirements come in to you from TRANSCOM and then you map that up against availability in readiness assets?

**Major Fuller:** Yes, and that's always a challenge for sure. We try to advertise what capacity is available but we are somewhat at the mercy of what the barrel has available to give us when we put that request in.

The user will give us a window to move with an available to load date to a latest arrival date. That window is usually no less than three days but it can be longer depending on the size of the movement. Once we have an idea of the user's requested timeline, we'll put in a tail request with the barrel and then the barrel will allocate us aircraft based off of global capacity.

SLD: If you have a shortfall or significant shortfall, does this get communicated back to TRANSCOM?

**Major Fuller:** It does. We have instituted a process known as a projected closure date and it is based on the availability of assets. And many times that's measured in days, not hours, so we'll say, 'you know right now we're looking at our forecast', and when it looks like we're exceeding what we can move, we'll put a projected closure date out to the customer. We're communicating to the user that, 'yes, I understand that you want it on this date but it looks like due to global demand it's going to be a 7 day wait.'



*Coordination on TACC Operations Floor (Credit: TACC)*

SLD: And presumably you have to have some decent transparency on maintenance and readiness situations because you have a lot of older aircraft so the routine maintenance is one thing, but in-flight maintenance or problems that develop in flight, you've got to address and you're looking for fairly accurate information from folks when that aircraft becomes available.

**Major Fuller:** That kind of plays into the barrel and maintenance withholds. For example, the Air Force has so many C-17s, and a certain number are set aside for training purposes, another number are set aside for long-term maintenance, and so on. So you subtract out those training and maintenance holds and that leaves you with the number of assets we have available day-to-day.

This means that we're always in constant dialogue with TRANSCOM and the users and communicating to them what our capacity looks like and what their particular movement is going to be met and when.

# THE ROLE OF THE BARREL AT THE TACC

## The Adjudication Piece



*Major Bonner During the SLD Interview (Credit: SLD)*

06/09/2011 – During the roundtable at the Tanker Airlift Control Center (TACC), the discussion closed with the challenge of adjudication (i.e. matching resources to demand and bringing plan and reality together). Major Bonner led this part of the discussion.

SLD: What does the Barrel do?

**Moderator Comment:** Once the plan is built, taking into account the weather, it goes to the allocation phase. So, there are “x” number of missions planned, now we have to match those missions up with available iron and air crews, and that’s where the major comes in.

**Major Bonner:** Like you said, the demand for tankers significantly outweighs the availability of assets. And some of that goes to the fleet structure; who owns what assets. We can only task active duty tankers unless we have some sort of long-term or short-term contract with the air reserve components.

SLD: Who controls the reserve assets?

**Major Bonner:** It depends on the type of unit. Some of them are unit-owned.

SLD: The state of Mississippi has its own air tanker fleet, that kind of thing?

**Major Bonner:** When it comes to the active-duty assets, we (TACC) can directly task those assets. When we want to use Air National Guard or Air Force Reserve crews and aircraft, instead of tasking, we ask them for participation when we are not in a mobilized status.

SLD: So, you’re a requester, not a demander?

**Major Bonner:** For reserve air components, it is based on volunteerism. And a lot of that ties into having the man-days and financial resources available to facilitate bringing those crews on orders for the mission.

SLD: So, okay. I have a need here. Your general calls who, for example?

**Major Bonner:** He would call the guard and the reserve commands, directors, their A3s. And we actually have liaisons here in TACC from both the guard and reserve side to facilitate those discussions.

SLD: I love this — the federal air tanker fleet.

**Major Bonner:** Say I have a C-130 mission. If I don't have enough active duty or long-term reserve or guard forces to support the mission I would talk to our guard and reserve liaisons to say, here's a mission, can you find a volunteer unit to fly it? This is a good process and works effectively when we can forecast requirements a few weeks out because most of the Air Reserve Component people are traditional, meaning they work civilian jobs most of the time. So, if there's a mission that shows up three days from now, you're generally not going to be able to find a volunteer on such short notice.



*Forty bundles of fuel fly out the back of a U.S. Air Force Globemaster III aircraft assigned to the 816th Expeditionary Airlift Squadron, on target during an air drop mission over Afghanistan in support of Operation Enduring Freedom, Dec. 8, 2010. (Credit: U.S. Air Forces Central Public Affairs 12/9/10)*

SLD: That sounds interesting. So, you have to stratify this in two ways. One is here are my assets.

Major Bonner: Right.

SLD: And here I can manage my assets up against five times the demand. And now I have to prioritize that. Then of the remaining demand, who can I chop this to this week or tomorrow?

**Major Bonner:** Yes. And there are a lot of factors to consider. Who can volunteer for it, or is there the proper amount of man-days or funding to pay for it?

As you start getting that delta between what you have available and what there is out there, that gets briefed to the TACC commander. If required, the 18th Air Force and AMC will get involved, and that's where they weigh in to say we need to ask for more volunteerism, or they can make decisions about reducing the amount of training missions our crews conduct in order to dedicate those crews and aircraft to operational missions. Or, hypothetically, they can also look at the projected demand for airlift, air refueling and aeromedical evacuation for the next six months, and using those forecasts they can explore the option of mobilizing guard or reserve units, if required.

SLD: But at the end of the day, this must be one hell of a task to forecast in some way or to anticipate. Because you're obviously anticipating. You've got to anticipate.

**Major Bonner:** That's what you spend half your time doing because the appetite for airlift, air refueling and aeromedical evacuation capabilities is insatiable, while our fleet strength is generally static.

## THE DISCIPLINE IN THE SYSTEM PIECE OF THE TACC



*Col. Mintzlaff During the Interview, April 2011 (Credit: SLD)*

06/08/2011 – During the roundtable at *Tanker Airlift Control Center (TACC)* the challenge of maintaining discipline in the system was a key focus for discussion.

The airlift system and the multi-modal approach reinforce one another in trying to deal with the demand side of the logistics supply chain. The predictability of this system and the performance of this system are inextricably intertwined with the demand side.

If the demander has confidence in the system, requests for supply will be closer to what he actually needs. If he does not, distortions enter the system and demand goes up significantly.

Col. Mintzlaff discussed what he called the key requirement for maintaining discipline in the system.

Col. Mintzlaff: There's a lot of collaboration across the TACC. From the execution piece, they do all the work, and for me, the challenges are maintaining discipline in that system so that when I say this is got to move; it's got to move. And you'll get both extremes. You'll get it where everything works and it moves, and you'll get another case where it needs to move now, it's all ready to go and in reality it may not be.

You have to maintain the discipline in the system. Is it approved? If it's something outside of the COCOM, through OSD, is it approved? Is it funded? Is it authorized to move?

To keep discipline in that system is a challenge because airlift can often be an emotional thing. I need my "something" and I need it now. Or in the case of a humanitarian type of operation, they need it and they need it now. It still needs to work through the wickets.

Another challenge for me is maintaining a common site picture with people. I think if people understand what's taking place at a given time, there is a logical answer to take some of that emotion out of play.

SLD: In other words, there's a process and procedures approach

Col. Mintzlaff: Yes, there is a process and procedures approach. How come my airplane is broken for three weeks and I'm on a C5? As it bubbles up, eventually it gets to the senior. So you're the person there to try to be the peace-maker or, you're right, this is wrong, we need to fix it. And you go, hey what's going on? Let's get a plane out there, because planes eventually break.

And now, where do you make the decision to rescue it, which is a use of assets that could be applied somewhere else? And where do you say, well, it's going to be fixed? It sounds like a clean issue, but a lot of times the airplanes are going to be fixed at noon. And then noon comes and well, no, it's really going to be 2:00. And then maybe it's going to be 4:00.

SLD: Or maybe ten days later

Col. Mintzlaff: Yes. Ten days later you're going "well, when is this thing going to be fixed?"

SLD: Planning and execution are hardly the same things.

Col. Mintzlaff: I would say if everything went according to all of the plans that everybody makes, we would have the most boring job in the world. Unfortunately, all the plans that they make fall apart for various reasons. Weather affects us in various ways. Nobody can control that. You can have a crewmember get ill. Anything that delays the mission from the original plan continues to have an effect.

Aeromedical evacuation needs to move somebody right now so we need to take another aircraft out of the system.

We have many things to consider. Many times a plan will come to us. We need to do this. When we delve further into the plan we find the crew can't do it because they don't have enough duty day left. Maybe diplomatic clearances aren't sufficient, depending upon where they're coming from.

Many different pieces have to go into that puzzle. And that's when having the senior on the floor really helps out because sometimes those hard decisions have to be made.

What are we going to stop? What are we not going to stop?

I've talked to many disgruntled people. "How come I'm sitting here with my C5 broken at 'name the place'? And I've watched, in fact, somebody else that was on this airplane with me, another airplane came and picked them up and took them home. How come I'm still here?"

These are the situations where we tried to get it done. We were given the plan, and we worked that plan, and we worked the modifications. Sometimes we modify the modifications.



*Soldiers spot a UH-60L Blackhawk while it is being loaded onto a C-5 Galaxy, Mar. 2, 2011, at Kandahar Airfield, Afghanistan. The Blackhawk upload was part of a change out; the old helicopters are being replaced by new airframes. (Credit: US Air Force, 3/4/11)*

SLD: Clearly, the planning mechanisms are one thing. But it seems to me really what we're talking about is risk management, risk communication. Trying to make hard choices.

Col. Mintzlaff: And it drives back to that discipline question. If you know you need it soon enough, you put it on a boat. We've made great strides working multimodally. And it helps ensure only those things that really need to be there overnight get there in time.

SLD: You're trying to take demand off the system by moving it to the multimodal system.

Col. Mintzlaff: We can relieve some of the pressure to the extent with which we can complement our normal delivery with the ships. But the ships are going to take a longer time to get there.

SLD: You have to have metrics that give you a pretty good predictability on what you're actually going to need. This leads to another problem, which is I'm the guy out in Afghanistan; I'm going to overbuy. Remember the just-in-time boys; how we were going to have just enough stuff and we'll save all this money in maintenance? But, in fact, what you just described is why I wouldn't do that; why I would buy more because I can't rely on your air asset to necessarily be there.

And I think you probably have already looked at numbers from how much did people order in a Desert Storm versus how much they're ordering here.

Col. Mintzlaff: It's better now. But there's still a ways to go. But yes, instead of ordering four, maybe they're ordering two.

I think the point I would make was if it doesn't need to go by air, don't send it by air, so that if you order one, you get one. It needs to be reliable and predictable, and that's what we're really trying to do through the multimodal approach.

SLD: That's a culture change for the supply chain.

Col. Mintzlaff: It is changing. You've gone from four or five to ordering two.

SLD: The key is as you say discipline so that there is predictability in the delivery system, and you are using air where it is most appropriate.

Col. Mintzlaff: Once you get something that's predictable and reliable, whether it takes three weeks or it takes a day that person on the ground says it's going to take me three weeks, so I'm going to plan for three weeks. Where it's rough is when it's a week, a week and a month, and he just doesn't know.

SLD: And your point is if the part can come by sea, he's better off having some predictability on that delivery.

Col. Mintzlaff: Or by air. Depending on what it is and when it needs to be there. If it needs to be there in 30 days, a ship might sail in 28.

I would make two points. One is if you predict out far enough, you can move it on the ship and get it there. The other piece would be the reliability part. If you're sitting in the Philippines and you know that when you order a part it's going to take 24 days to get there, or 14 days to get there from the time I order until I get it in my hand, then you start to build your processes around that. Where you fail is when one time it's there in a week, or two or three times, and then it's 24 days. Now he doesn't know what to do. Now he's ordering more than he needs.

SLD: So then you get distortion and behavior affecting the demand side

Col. Mintzlaff: And that's really one of the things we're trying to ensure, especially in this neck of the woods, is reliability. It's going to come every so often, and plan on it.

SLD: Well, that's very interesting. So trying to take the advantage of your fleet management interacting with a more reliable logistics supply chain management.

Col. Mintzlaff: If you're sitting on the ground, would you rather know what you ordered is going to be there in two weeks, come high water? Or that you simply can not be certain of the delivery date? That is why we are focused on building greater discipline in the delivery system.