

"Operation Desert Storm"**Gen. Merrill A. McPeak, USAF****DOD News Conference, Washington, D.C.****March 15, 1991**

[Note: "Mr. Williams" was Secretary of Defense Pete Williams, The Pentagon Spokesman]

Mr. Williams: Throughout the campaign, throughout the time that Operation Desert Shield and especially Desert Storm were ongoing, our briefings were from the perspective of the overall operation—from Lt. Gen. Tom Kelly and Admiral McConnell and Captain Herrington, and there have been a lot of requests from you all to go into somewhat more detail about specific parts of the operation. Of course, General Schwarzkopf has given the big view, especially with an emphasis on the ground campaign, but many of you have been interested in a little more detail about how the air part of the campaign was prosecuted. We've been talking to the Air Force about pulling together just such a briefing, and I think it's great for all of us that the guy the Air Force decided to come up with was none other than the Chief of Staff of the Air Force. He's here today to discuss the air campaign with you. He'll have a presentation to make which will last around 20-30 minutes—it's a very thorough walk through of exactly how it was all done. When General McPeak is finished with his presentation, he'll then be happy to take your questions for another 20 minutes or so. I imagine the whole operation here will take about an hour.

With that, it's my pleasure to introduce to you all the Chief of Staff of the Air Force, General Tony McPeak.

General McPeak: Thank you, Pete. I'm delighted to be here today to tell an American success story. A great victory achieved against a strong enemy, and with little loss on our part. Before I begin, it is largely a story about airpower, a success story for US and coalition air forces. But I need to remind myself and everybody that we were only part of a larger air, land, and sea campaign—what we call a combined arms operation, in which all of the services made a very important contribution, and, of course, all of our allies as well. I hope you'll forgive me now, if I talk mostly about the air campaign for the rest of this time, since that's my piece of the thing to talk about. You can bring me back from time to time and remind me that everybody else played an important part.

Iraq invaded Kuwait on the 2nd of August. The President, as you know, subsequently made the decision to intervene. We were given a deployment order on 7 August. We began flying squadrons to the theater immediately. The first squadron arrived in theater in 34 hours. Since 15 of those 34 hours were flying hours for this particular squadron, that meant that squadron launched in less than 20 hours from getting the deployment order here in Washington.

Altogether, about 15 fighter squadrons flew nonstop into the theater. Here I show only a few of the places around the country from which these combat elements came—by no means all of them here. In all, about 46 percent of the combat force stationed in the United States Air Force, in the continental United States, was deployed. Just a couple of locations of interest here—we had National Guard units from Syracuse, N.Y.; from South

Carolina, McIntyre near Columbia, S.C.; an Air Force Reserve unit; A-10s from New Orleans, and so forth.

This movement was really made possible by a lot of units not shown here. First of all, all the tankers, the flying gas stations—we have on the order of 600 tankers in the Air Force. As many as half of them have been involved in this exercise at one time. This was certainly the largest airlift in history. We moved an Army halfway around the world and set it up from scratch. It's really something like moving Oklahoma City, all of its people, all of its vehicles, all of its food, all of its household goods halfway around the world. In essence, we're doing the equivalent of a Berlin Airlift every six weeks—a magnificent performance, and one only the United States, I think, could have achieved.

The buildup resulted in this kind of a force structure going into the area of operations. Day zero, the 7th of August, the deployment day, the only coalition air forces, fixed-wing aircraft that were in place, were the Saudi and Kuwaiti Air Forces. By Day 5, they had been joined by five US Air Force squadrons and some Navy carrier air, and we began to feel a little more relaxed about our ability to defend Saudi Arabia if the Iraqis decided to continue the attack to the south.

In five weeks, we had a pretty good overall air capability, both offensive and defensive. At this point, we outnumbered the Iraqi Air Force. That was about the size of our phase one deployment. It stayed pretty level until the 8th of November when the President directed phase two of the buildup. Between 8 November and D-Day, which was the opening of the air operation, you can see the fixed-wing coalition air forces roughly doubled in size. This chart breaks out shooters—that is to say fighter and bomber aircraft, from support—tankers, airlift, electronic warfare and so forth. You will notice that following the beginning of the air campaign and at the start of the ground operation, G-Day, there was an additional increment—these were other coalition partners that joined after the initiation of hostilities. In the end, by G-Day, when the land operation kicked off, the distribution, the composition of the coalition air force shown here, about half of this was United States Air Force, but the other breakout is shown.

This is a picture that tries to show how prickly this air defense setup was in Iraq. Basically, this is a fairly strong opponent—the world's fourth largest armed forces and the world's sixth largest air force. As you can see here, on the order of 1,000 aircraft, some of them very good aircraft—Mirage, F-1s, MiG-29s, Spencers, and so forth—with a very good infrastructure, widely dispersed around the country. A good offensive capability with both their long-range aviation and Scud missiles, and an air defense setup that can be described, I think, as state of the art. Perhaps as many as 17,000 surface-to-air missiles, on the order of 9,000 to 10,000 anti-aircraft artillery pieces, very modern radars all lashed together with high-tech equipment. Lots of computer data links, fiberoptic connections, many of the principal control nodes hardened, buried under concrete bunkers, and so forth. This is a first-class air defense—not a featherweight opponent that we had to operate against in the opening hours of the air war.

I want to spend a little bit of time talking about our concept of this operation, and this is going to get a little bit complex, so I apologize in advance. But like the other elements of the air/land/sea campaign, our target was the field army deployed in the Kuwaiti theater of operations. Our mission was to expel that army from Kuwait.

On the air side, our concept really is summarized here. First of all, we knew we needed to

operate in Iraqi airspace, so he was going to have the home court advantage. We had to penetrate into his territory. To do that, we had to take apart and disrupt his ability to stop us from coming in. In other words, we had to disintegrate his integrated air defense setup. Second, we wanted to make sure that we ourselves, our own forces in Saudi Arabia and elsewhere, did not come under attack by his offensive air threat. We needed to destroy his long-range aviation and Scud missile capability. Taken together, these two steps would give us air superiority.

After we achieved that, we wanted to isolate the Iraqi field army, cut it off from its source of supply and reinforcements, and then to attrit it with the object of wearing it down to the point where when we did intervene on the ground, our ground forces would not have heavy casualties. Finally, at the point where our ground forces intervened, we were prepared to give strong support to our ground operations.

A little further refinement on that would show that our original concept showed the air campaign as being divided into four phases. Phase one lasting about a week, seven to 10 days we projected, would be the air superiority phase aimed at destroying Iraqi integrated air defenses and their offensive capability, and disrupting their command-and-control setup—attacking the brains and nervous system of the Iraqi ability to control their own forces.

After doing this, we projected that we would turn to the field army deployed in Kuwait, but we felt we'd need a short phase here—perhaps a day, day and a half—to suppress surface-to-air defenses in Kuwaiti theater of operations. This would not be a robust, integrated air defense network, but more the kind that a field army carries with it, mobile systems, and therefore, not near as serious a problem from a strategic standpoint as the integrated Iraqi air defense, so we projected perhaps a day to do that.

The longest phase, phase three, from about the end of the first week until the end of the first month, would be an emphasis on the field army in Kuwait, and we would continue to service these phase one and phase two targets as necessary to keep them down.

Finally, in phase four when our land forces jumped off, we intended to give support to that operation. It turned out, that was the so-called 100 hour war, the four-day war from Day 39 to 43. As a matter of fact, in the final analysis, G-Day slipped to Day 39. So the first phases were not done in 30 days as we originally projected.

This, as I say, was the way we had in mind as a concept at the beginning. I will say this isn't the way it actually worked out. There were some audible calls at the line of scrimmage. One of them was that these phases tended to merge together, and finally did essentially merge together. They merged, really, because the President decided to double our combat force in November, so we had more than enough airpower on the scene to do the phase one job at the beginning, and we simply diverted it to begin on phase three. So there was no time from Day 1 on that the Iraqi ground forces were not under heavy air attack. By the way, this is also something General Schwarzkopf wanted. He was particularly interested in attacking ground forces from Day 1. In essence, this is his concept of the operation. All pieces of it were his concept, including the air piece. We, naturally, executed according to his concept.

I'll return and talk about some of this other stuff in a second, but I want to talk for just a few moments about the opening minutes of the air war, because they dramatically influenced

the outcome of the entire war.

I don't know where you were on the evening of 16 January, here in Washington—the early morning hours of 17 January in Baghdad. If you were like me, you were home watching TV. CNN reporters in the Rashid Hotel here were out on the balcony reporting that they couldn't see anything up in the sky, and that was an accurate report. The Iraqis were seeing the same thing. They were seeing a situation that we had been showing them since August. AWACS, airborne radar aircraft on our side of the Saudi border, were looking in to keep track of what the Iraqi air force was doing. They were accompanied by aircraft in what we call combat air patrol, or CAPs. These are F-15 interceptors up there to protect AWACS and to react to any attack out of Iraq. As I say, these AWACS orbits and these CAP points had been there for months, and something the Iraqis were used to seeing.

Here, General Schwarzkopf exercised a brilliant bit of air deception because south of there, and just beyond the radar warning capabilities of the Iraqi radars, our attack aircraft were forming up in orbits with tankers so that they were able to top off their fuel at the last moment before heading on into the target area.

Here's what was really happening. Our stealth aircraft, low-observable aircraft, which these Iraqi radars could not see, jumped off at H-hour, actually slightly before H-hour, and blinded the Iraqi early warning system by knocking out these radars, and then proceeded on into Iraq to begin to work on the rest of the strategic targets—principally the command-and-control apparatus, the fighter defense direction system, and so forth. They were accompanied, in this instance, by the Tomahawk missiles being fired off by the Navy out here in the Persian Gulf, the so-called T-LAM.

I think we achieved tactical surprise, at least the CNN reporters in the Rashid Hotel were on the balcony reporting that a nearby telecommunications building was being attacked. That also was an accurate report. Having opened up the gateway then, other strike packages rushed through, and we hit very hard—this was a massive attack in the very beginning moments of the war. We attacked all of the strategic targets that I've spoken of, the electrical power, communications, air defenses, and so forth. It was a very heavy attack, very precisely delivered. In my judgment, the Iraqi force never recovered from this opening attack. We took the initiative at the beginning, and we held it throughout the rest of the war period.

The special role played by the 117 is, I think, worth saying a little more about. Under these triangles, I've marked the locations of the first day targets of the 117s. We didn't have a lot of 117s in theater. As you can see, they are only 2.5 percent of the force that we deployed there. They attacked 31 percent of the targets that were attacked on Day 1. As you can see, they did all the work—they and the T-LAMS—did all the work in the heavily defended downtown Baghdad area. They also attacked key parts of the air defense system throughout Iraq.

This is the 117, you've seen it. It's been operational now for nearly 10 years. It still represents the state of the art as far as operationally fielded technology. As far as we know, it's never been tracked by any Iraqi radar. It has certainly never been touched by bullets or SAMs or anything else. We operated for 43 days with this aircraft completely invulnerable, so far as we know. As it says, never touched by target defenses.

I want to make a little more on this point here, because with the combination of stealth and

precision attack capability in the 117, we were able to attack targets very discretely. We did not carpet bomb downtown Baghdad. As a matter of fact, it's obvious to anyone who has been watching on television, the pictures of Baghdad neighborhoods untouched, people driving around, walking around on the sidewalks, and so forth. We took special care to make sure that we attacked only military targets, and we attacked them quite precisely. Aircrews were informed to bring home the ordnance if they weren't sure they were locked to the right targets. We made very few mistakes. I'm quite proud of the fact that we achieved high levels of destruction against military targets with minimum collateral damage.

As I say, there were several audibles called. Things didn't proceed precisely according to our precanned script, As I talked about the merging of the phases. This is, perhaps, the thing that hurt us the worst. This was certainly the poorest weather in 14 years in the Baghdad and Kuwait area. I say 14 years because we in the Air Force only have 14 years of good climatological data.

Maybe this is the worst weather in 100 years, for all we know. It was at least twice as bad as predicted. As a consequence, we lost a lot of targets, especially to the 117, where low cloud cover presented them from acquiring the target, and they simply brought the munitions home.

Another factor which was different than expected was the amount of effort we put on chasing Scuds and the way we had to improvise and figure out who to handle the Scud problem. We thought from the beginning that we would have to attack Scuds. What surprised us was we put about three times the effort that we thought we would on this job. Of course, we attacked the Scud firing positions. The Scud is a missile that flies to a known range. Its range can't be regulated after it's fired. If you were going to attack Haifa or Tel Aviv, we can draw a circle and we know about from where you have to launch it, or if you were going to attack Riyadh or Dhahran, we know where those launch locations are.

So we went there and attacked the positions that had obviously been set up as fixed positions, but that wasn't enough. Mobile Scud launchers operated at night, drove into these launch boxes and launched, so we had to do a lot of road wrecking, even with the A-10s. An old, slow aircraft was used to go out where we could do this and run up and down the road and try to find these mobile launchers.

Probably the most effective thing we did was to put F-15Es in airborne CAPs right overhead of these Scud launch boxes, and then use JSTARS, which is an airborne radar system now under development—it isn't really fielded yet, but it's in engineering development. This radar finds and tracks moving targets on the ground. So with it, we could track all of these vehicles. When we found one that looked suspicious, then these JSTARS aircraft were able to divert these airborne CAPs and perform on the spot, ad lib attacks.

Being in one of these CAPs is roughly the same as flying from Washington to Chicago, going into an airborne orbit for three hours, conducting a precision attack, and then flying back to Washington, D.C.—a tough job for some of these guys, but they did it very well. I'm going to show you some of the results here from our Scud attacks. First, starting with the attacks on fixed launch sites. This is a fixed site. We can tell because of the layout here of the launcher, and then this trenching coming out to generating power and other utility support for the site. These are relatively straightforward, easy first attacks, because we knew where they were. Here's an F-15E attacking a fixed site. Here's another fixed site with the trenching, being attacked by an F-15E.

We also attacked Scud storage. This is a Scud storage bunker. We know that because of the configuration of the roads leading in and out. The weapon goes in the top, and we get a big secondary explosion as you can see. Obviously, there were Scuds inside.

This is a mobile Scud launcher. They even started hiding the mobile launchers in culverts along the highway, as you see here, so we had to go attack the culverts to get underneath them.

Altogether, using all of these various combination of means, improvising and so forth, I think we had a pretty good impact on Scud launchers. As you see, the Scud average launch was five a day for the first 10 days. I show here in black, the Scuds launched on Israel. They had a heavy launch rate here. In gray, the launches into Saudi Arabia. This first 10 day launch rate of about five a day was cut down in the last month to about one a day. But really, there was an even more profound impact than that, because out in this area they began launching Scuds from out of the boxes. We had driven them out of the boxes so they no longer could launch as many on Riyadh and Tel Aviv—in other words, urban targets. Some of these were actually launched against military targets—for instance, King Khalid Military City was attacked in the north part of Saudi Arabia. We forced them to improvise, and we sharply reduced the number of launches they could make through a combination of these tactics.

Skipping to the end, throughout the entire 43 days, the coalition air forces put up about 110,000 sorties. As shown here, the US Air Force flew nearly 60 percent of that total. We dropped about 88,500 tons of ordnance. Again, the US Air Force contribution was major. This one is of particular interest to me, because in my judgment it was the precision munitions that did the most important work. As you see, the US Air Force did about 90 percent of that. It might interest you to know that this is about half again as much tonnage as we dropped through the entire war in Vietnam. In 43 days, in other words, we far exceeded our tonnage of precision guided munitions in a war that lasted eight or nine years.

I want to talk a little bit about the Iraqi Air Force. Here, I talk about shooters—in other words, fighter and bomber sorties that they flew, and other sorties—support, transport, and so forth.

The convention here is to say this is the number of sorties the Iraqi Air Force was flying in the first two weeks in January before the war began. You can see, they were flying about 100 sorties a day, almost 60 of which were shooter sorties. This is the day of the war out to G-Day, Day 39, and the final cease-fire here, on Day 43. Notice that they put up a pretty good fight here for the first two or three days. The first day in particular, they had a lot of support sorties. On Day 3, they gathered themselves together and put up quite a few fighter sorties.

After that, this effort really wasn't very good. It was markedly down from what they were doing here in peacetime. It looked to us as though they stood down on the ninth day of the war. These clumps here—this one and this big clump—are the flights to Iran. Essentially, it looks as though the Iraqi Air Force gave up at this point and went to Iran. Then the entire effort went brain dead for about two weeks. Finally, here on G-Day, Day 39, we had two more flights. These also were flights out to Iran.

I want to talk specifically about the flights to Iran. These were the ones that we tracked. Support aircraft, transports mostly, as you can see, went out in the first week or so of the

war. Here's the day nine stand-down, and these are the two big groups of flights to Iran, and then the final flight out with the last two aircraft.

What happened is that about Day 7 we decided to attack Iraqi aircraft in their aircraft shelters. I think they made a decision that since they were no longer safe in shelters, that they would have to leave. Then they started out to Iran. Right in here, we put an air CAP along the Iranian border and began intercepting aircraft coming out of Iraqi airspace and into Iran, so they quit going to Iran. Here we pulled that airborne CAP down because it looked to us as though they had stopped going to Iran, and they went back at it again. They were playing kind of a cat and mouse game here. As I say, that was essentially the end of the story.

Q: All those are one-way trips?

A: Yes, these to Iran are one-way trips.

Here is our aerial victory, a total of 35 aerial victories were scored by all the coalition air forces—the US Air Force shot down 31 of those 35. As you can see, we had a fairly good fight on our hands, not real good, but at least some kind of fight for the first three days. We got half of our kills in the first three days. Then these groups of kills here were registered against aircraft fleeing to Iran.

Q: Does this include the helicopters?

A: No, fixed wing only, as it says.

This summarizes the Iraqi Air Force attrition: 122 aircraft flown to Iran—in other words, most of these aircraft out of the fight, went to Iran. Here's our 35 air-to-air kills. Other kills, these aircraft destroyed on the ground; some accidents they had—some of these including aircraft that were crashed trying to fly to Iran; and some aircraft captured by our ground forces during the ground campaign.

I said they had about 600 shelters. We attacked the majority of them. We estimate there were a large number of aircraft inside these shelters, but these are not counted as confirmed kills. Our confirmed total aircraft out of the fight, 234.

I want to show some more film here about attacks against the Iraqi Air Force, beginning with aircraft in the open. This is a Soviet bomber design, called the Badger, sitting in a revetment. We are lasing with a laser-guided bomb. Next is a Soviet fighter called the Fitter, again, in the open—we're lasing it. Now we go against aircraft shelters, I'm sure you've seen footage like this, or quite similar to it. This is an aircraft shelter. I show it because it's such a dramatic explosion that we know there was something in that shelter. Here we have debris coming out both ends of that particular shelter. Here's another attack with a large secondary coming out the top. Finally, when we got on the ground, we captured some Iraqi airfields.

Here's an aircraft shelter, we're taking the picture out the side of a helicopter. Here's a shelter that looks undamaged, but you'll see an entry wound on the side. Here's another shelter essentially blown apart. We landed on the ground at this airdrome and walked in and looked at one. Here's the roof of one of the shelters. It shows the bomb entry point. We will pan to the floor of the shelter. The bomb penetrated the floor, heaved the floor up, as

you can see, and of course destroyed the aircraft inside.

Once we had achieved air superiority, our next goal was to cut off the deployed field army. As the Chairman said, Colin Powell said, first we're going to cut it off, and then we're going to kill it. Part of cutting it off was to destroy the Iraqi ability to supply and reinforce that army down in the Kuwait theater of operation.

During the course of this, we tracked 54 major bridges. Some were important to us because they were on the road system out through the launch boxes for Scuds and we wanted to prevent movement of mobile Scuds. But most were important to prevent the reinforcement of the deployed field army.

Now I'd like to show a little film footage of bridge action. Some of this is quite famous film footage, particularly the first one. This first one shows a pickup truck, the little white dot here, driving on to the bridge. We missed the truck on this one. As you can see, we're lasing out here. The next one shows a lot of traffic on the bridge—it shows how important these LOCs were. There's a bus that we missed, but the truck right behind him gets in the way of this laser-guided bomb. This is a pontoon bridge. Once we had destroyed the major bridges, the Iraqis threw across pontoon bridges, and we went after them also.

Finally, after we had cut off the field-deployed Iraqi Army, we went to work on major categories of equipment. You see here our estimates of how many tanks were in the Kuwait theater of operations, in the large black bar; how many other armored vehicles; how much artillery. Here, the estimate on G-Day, the official estimate of what we had destroyed by G-Day, by the time the ground forces started moving, and the current official estimate. My point is, I believe strongly that we were very conservative in our claims. Once we actually did push in on the ground, it was obvious that we had achieved destruction rates well above something like the 50 percent we may have been claiming in all classes of major equipment.

I'll show you one last film clip which shows the attack of Kuwaiti equipment in the field. We'll begin with F-111s using laser-guided bombs against tanks. You'll see large chunks of armor come out there as the tank is blown apart. Here's another attack against tanks. This is a spectacular one because of the ammunition and fuel and so forth inside the tank. This is an attack on a convoy. You see the hot spots along the road—those are tanks in a convoy. Here's one burning as the A-10, in this case, works against this tank with a Maverick missile. The tanks tried to get off the road. You can see them leaving the road now and driving out into the desert. In fact, some of the tankers tried to run away—you see the people running away. Of course we continued to attack. This is a moving tank, moving it into the desert off the road. We continued to attack him. We got a pretty good sized secondary on that one. As I say, I think we achieved very large levels of destruction prior to G-Day, and I'm convinced that made the job a lot easier for our ground forces.

I spoke of JSTARS earlier, it's an airborne system that tracks moving targets on the ground. This is a picture of the JSTARS radar showing moving vehicles. This is not a typical day in Kuwait, although this is Kuwait City, because this is after the ground forces intervened, and this is the retreat of the vehicles up the major arteries to the north. This is what I think Secretary Cheney called "the mother of all retreats."

Let's talk about our losses. We had low losses, but we had some losses. Here we show that the USAF lost 14 aircraft in combat, and some others through noncombat causes. That's a

number I regret, I don't like losing 14 aircraft, but it's one aircraft every three days or so of combat, and no one would have ever believed that we would lose only one aircraft every three days. The other losses are coalition partners and the marines and the Navy.

One more word on casualties. CENTAF is the Air Force's part of Central Command. As of the latest official figures yesterday, we had three killed in this whole operation. We're still tracking three missing and we won't be happy until, as the President says, until we get a full accounting of that. These 14 missing are also Air Force personnel. They were aboard a special operations gunship.

One other point, in two separate instances, the USAF attacked friendly vehicles. We destroyed both vehicles, and we killed 13 of our own people—Marines in one case, and Brits in another. That's two separate mistakes that we made. We attacked probably something on the order of 10,000 vehicles. These mistakes were made in the fog of combat, heavy fighting on the ground. They were both done at night—it's a very difficult problem, to do this kind of thing at night. We certainly deeply regret this kind of thing. It's a problem we work on all the time. I feel badly about it. My only consolation is by the grace of God and dint of hard work, perhaps we saved a few who might otherwise have been claimed.

Q: General, there was also report of Marines who died in ...

A: I'll take your questions in just a second.

Let me finish by talking about the lessons we learned in this business. Perhaps it's better to say relearned, because some of these are old lessons. First of all, talk about great leadership—our President is batting 1,000 on this thing, and 300 will get you in the Hall of Fame. With him, Secretary Cheney, and the Chairman, I think you got really an all-star cast there. And I've got my team in case we have to go again against anybody. On the scene, Norm Schwarzkopf. Very few field commanders have ever mastered the art of more than one form of warfare. He's proved himself to be the absolute master of both sea, air, and ground warfare. His name joins that very short list of true, brilliant American generals. By the way, his airman, Chuck Horner—a guy I've known since we were lieutenants together—always has known his business and proved it again. As the architect of the air war and the guy who executed it, Schwarzkopf's concept of air operations, he did a magnificent job.

The US Air Force can go anywhere in the world very quickly, and it has tremendous destructive effect when ordered to do that by the President. It is important that we had one concept of operations—General Schwarzkopf's concept—for the air, land, and sea campaign. It was very important they all marched to the same set of orders. Air superiority once again proved its importance. Our flexibility to improvise, make up tactics, and so forth, were very important.

Stealth, in combination with precision guided munitions, I think, has certainly the potential to revolutionize warfare.

Probably the most important lesson, we have quality people that are well trained, that are very confident, and they proved it.

This is meant to be a little bit of humor. I want to say a word or two about the Iraqi Air

Force. I think they did rather well, under the circumstances. They're a pretty good outfit. They happened to be the second best air force in the fracas. Having the second best air force is like having the second best poker hand—it's often the best strategy to fold early. I think they folded early. The lesson for us is we do not want to enter combat with the second best air force.

That's it, ladies and gentlemen. I'd be willing to take your questions.

Q: Since you say they folded early, is there enough of an element left there to worry about? Do you feel prepared to start up an air war again with the forces you have on the ground, given the troubles that are now in Iraq, and the fact that troops are now starting to come home?

A: In my judgment, it will be a generation before the Iraqi Air Force recovers to anything like its previous strength—at least a generation. That doesn't mean they won't be capable of isolated air action. They can't begin the building process right away, and so forth, but their infrastructure is heavily damaged. Their airfields, their maintenance facilities, their operational facilities, their aircraft shelters. Their aircraft are gone. The ones that are surviving are mostly out of the country. A generation of pilots and crew chiefs and mechanics and air leaders have certainly vanished. I think it will be a long time before they constitute a significant threat again.

Q: What about your assessment of what we have on the ground now?

A: We're in great shape.

Q: Could you start up an air war again if necessary?

A: We have aircraft on orbit right now, flying there, who can do whatever General Schwarzkopf and the President ask it to do.

Q: When you say the F-117 was 2.5 percent of the air asset, is that the bombers?

A: The shooters. Two-and-half percent of the shooters.

Q: Can you assess the contribution that Navy aviation made to the war, and whether their planes brought something to it the Air Force didn't have, or whether it was basically redundant?

A: They made a tremendous contribution. It was not redundant. They were tremendously effective in everything they did. The CNO may brief you on that one of these days. I'm just absolutely delighted we worked together with the Navy as partners in the coalition air force.

Q: Late in the war you were continuing to strike targets in Baghdad. Reviewing the map, it looked like 900 to 1,000 sorties a day against strategic targets. Can you give us some sense of breaking down the strategic targets, and what kind of things were you still hitting in Baghdad weeks into the war?

A: We were not flying 900 sorties a day late in the war against strategic targets. Beyond that, I think I'll duck the rest of the questions.

Q: Can you give us any sense of what percentage of laser-guided bombs hit their targets?

A: I don't have any good data on that. If I had to give you a guess, I would say on the order of 90 percent.

Q: You were talking about taking out the bridges. Did you take out every bridge over the Euphrates?

A: No, we did not.

Q: How many did you take out, and why did you leave some standing?

A: We took out very nearly all. As you see, we had about [40] out of the 50-odd that we were tracking that were in the water at the end of the time. They didn't get them all. It only lasted 33 days, and we really didn't start on bridges until about day seven to 10.

Q: It looked like the RAF was doing a hell of a job on the bridges ...

A: The RAF did a first-class job on everything they tried to do. It was an honor to be involved with them in this effort.

Q: At the end of the ground war, the Army was saying that going after the Iraqi soldiers was sort of like clubbing baby seals. At this point, the Air Force also swooped in on one of the convoys going from Kuwait into Iraq, was that an excessive use of violence? No. 2, what about Iraq's use of combat, fixed wing aircraft now flying in Iraq from place to place? Are you concerned about that?

A: I'm not sure there is any fixed wing flying—combat aircraft flying today in Iraq.

Q: ... the last few days?

A: No, I don't think there have been any, but I really ought to tell you to direct that to Riyadh.

Q: If there were, would you be concerned about that?

A: Yes, I would. But my level of concern would depend on the circumstances—how many, what direction were they going, that sort of thing. So it's tactical judgment that should be made on the spot. As far as attacking retreating troops, I think you have to understand a little bit about military history. When enemy armies are defeated, they retreat, often in disorder, and we have what is known in the business as the exploitation phase. It's during this phase that the fruits of victory are achieved from combat, when the enemy's disorganized. The alternative is we should never attack a disorganized enemy. We should wait until he is stopped, dug in, and prepared to receive the attack. You may recall how disappointed Lincoln was with General Meade when he failed to pursue Lee south after Gettysburg. It certainly prolonged the Civil War perhaps a year or so, and many more young northern and southern men were killed as a consequence. All American generals should remember that lesson. If we do not exploit victory, then the President should get himself some new generals.

Q: But you don't see the pictures of that as looking like excessive use of violence?

A: That is exactly what happens when a rout occurs, and the enemy retreats. It's a tough business, but our obligation is to our own people, and our obligation is to end the war quickly in the most humane way possible. It often causes us to do very brutal things—that's the nature of war.

Q: Can you give us more details on the B-52 operations? Is there a judgment that more aircraft were needed, and what led you to conduct those operations from great distances?

A: B-52 operations can be conducted from great distances, and we did that. I'm not sure I understand your question.

Q: I understand that additional B-52s were called in at later phases. Can you give us some details on when that occurred and why those judgments were made? How many aircraft were ...

A: After the opening of combat operations, some of our coalition partners agreed to allow us to conduct operations. That accounts for the growth of the shooter and support aircraft from D-Day to G-Day. We had the capability to operate those aircraft, and we did.

Q: Going back to an earlier question about targeting soldiers, one of your primary targets that you mentioned were the Iraqi ground forces throughout the theater. Could you tell us what considerations, if any, were given to either trying to kill as many of these soldiers or not kill them, what kinds of munitions were used? Could you have wrought even more destruction than you did, say by use of Napalm or other types of weapons? Explain a bit of the decision-making process of that and the impact it had on human life.

A: This is a tough business, so I don't want to exaggerate the length to which we went to try to keep from killing people. But we did drop leaflets and so forth. We made it clear that our targets were equipment targets. We said in our leaflets that were dropped, move away from your equipment targets. We said we will not attack anybody walking north, and we didn't. We attacked equipment in every case. So I think we tried to disarm the Iraqi Army as humanely as possible.

Q: Could you elaborate a little bit on the point at which the Iraqi aircraft began going to Iran, and was that the result of some precision bombing by stealth aircraft? Second, do you know if we captured any Scud missiles in the areas occupied by allied forces?

A: On the second one, I do not know that. Again, I think General Schwarzkopf would be the right guy to take the question. I believe that after about Day 7 when we stepped up our attacks on aircraft shelters, that a decision was made by the Iraqi Air Force that they had to leave in order to survive. In the first two or three days of the war, we made it obvious that with a ratio of 35-to-0 in the air, they couldn't survive in the air. But we also subsequently made it clear they couldn't survive by staying parked in the aircraft shelters, and that's the point at which I think they decided to leave.

Q: Can you tell us what the F-117s, what targets they hit in Kuwait City, and did that occur right at H-hour?

A: The targets in general were aimed at air defense operations centers, communications, command and control.

Q: General Horner in Riyadh, said the one aircraft that he most could have used in this campaign was the B-2 stealth bomber. Given the utter collapse of Iraqi radar defenses and the relative impunity with which we were flying, do you agree or disagree with General Horner's yearnings for the B-2? Would the B-2 have made any difference?

A: I think the B-2 will make a tremendous difference when fielded. The principal difference will be its reach. In other words, with the B-2, we'd have a stealthy aircraft roughly the equivalent in signatures to the F-117, although a huge airplane—that shows you how far stealth technology has come in the last 10 years. This aircraft will have stealthy characteristics, but be able to go from CONUS secure operating bases, and with one refueling, reach any part of the earth. So of course it would have had some value in a situation like Iraq. But for my money, the principal value would be to take conventional weapons long distances and attack very quickly whenever the President decides to do that.

Q: These JSTARS that can identify mobile targets, could they identify them well enough to distinguish between a truck that might have a Scud and a Jordanian oil tanker? Or are they just identifying large moving targets?

A: I can't answer the question. I'm not sure.

Q: You went into the war thinking how many of your aircraft were going to be shot down. When you take a look at the overall picture, you flew 60 percent of the sorties, but only 30 percent of the planes were (inaudible). Why did the Air Force do better than the others? Was there any fratricide in the air? Did the allies shoot down any other planes?

A: Quite frankly, I thought our losses would be somewhat higher. I projected in the deliberations leading up to the decision, that we might lose as many as four or five aircraft a day. My private hunch that I sort of had in my hip pocket was less than that, but you know airpower advocates over the years have gotten themselves in trouble bragging too much about what we're going to do, so I tried to nudge that and add a little fudge factor in there. But I certainly, even in my most optimistic, wildest dreams, would not have said we would lose one aircraft every three days in this kind of an operation.

US Air Force losses were gratifyingly low. I can't offer any explanation for that. We do have the world's only operational stealth airplane, and since it wasn't scratched, why it tended to skew the results in our favor. But all of the services did extraordinarily well—the Marines, the Navy, the allied air forces. This was first-class operation. Having said that, am I proud of the performance turned it by the United States Air Force? You bet.

There was no case of blue-on-blue fratricide any time during the war. I've already talked about our air-to-ground fratricide, but no air-to-air fratricide. It's remarkable, when you think we were putting 3,000 sorties a day up there or more. It is a tribute to General Schwarzkopf's single concept of the operation, management of it centrally, and everybody singing off the same sheet of music. A remarkable performance.

Q: Given the level of damage that the air war alone inflicted on the Iraqis, and the fact that by the time the ground war started there was the rendering through television minivans and pilotless reconnaissance planes, is it conceivable that by continuing the air war alone for another period, the Iraqis would have been totally defeated without a ground war?

A: My private conviction is that this is the first time in history that a field army has been

defeated by airpower. It's a remarkable performance by the coalition air forces. But here are some things airpower can do and does very well, and some things it can't do, and we should never expect it to do very well—that is move in on the terrain and dictate terms to the enemy. Our ground forces did that. I think, by the way, again, they did a remarkable job. First, we weren't so sure we were making the right move when our ground forces, the 25th Mech and the armored divisions up there in contact with the Republican guard stopped and offered, really, a merciful clemency to the Iraqi ground forces. But that's the kind of thing ground forces can do, and I think they did a magnificent job.

Q: You said at the beginning that Iraq had the sixth largest air force, and you said they were not a featherweight opponent, and yet by Day 9 they were practically out of business. I'd like you to explain whether, besides the precision weapons and all that, was morale over there so bad, were the planes so bad, the pilots, did they overestimate their own airpower? What happened?

A: I think they picked the wrong time to lean on President Bush. The ultimate answer to that question is, this is not the right time to pick on the United States. What we have here is armed forces—Air Force, Navy, Marines, ground forces—that have had a decade of reasonable food funding, good O&M funding so that we've had good flying hour programs, good steaming hours for our Navy, good maneuver training for our land forces. So they just ran into a buzz saw. It's not that they were featherweight opponents, it's just that they picked on the wrong guy.

In my judgment, only the USAF could have disintegrated that air defense system as quickly as we did with such overwhelming shock power that it totally stunned the Iraqi Air Force, and in essence, the issue was decided in the first few hours of the engagement.

Q: What does this tell you about Soviet equipment, Soviet doctrine, Soviet tactics? If you were the Chief of Staff of the Soviet Air Force, what would you tell your boss?

A: The commander of the Soviet Air Force is, for the first time in living memory, younger than the Chief of Staff of the USAF, and I've read some of his writings—he's a very interesting guy. I think he sees a need to change the way the Russian Air Force operates. So I would say good luck to him. It may well be that he's right on that one.

Q: Can you tell us besides the F-117 and F-15E, what were some of the new weapons that you used in this war that hadn't been used before, and can you tell us, did you use any cruise missiles?

A: I don't have at my fingertips a good answer. We did employ some precision, especially precision guided munitions that we hadn't used before. One thinks of the Tomahawk immediately. The munition used by the F-117 is a case-hardened 2,000-pound bomb that we have not used before. But no, I don't think there were a lot of strange, new munitions. Most of our air-to-air kills were achieved by the Sparrow missile we used in Vietnam, 20 years old or older—a product-improved version of it.

Q: Did you use any Air Force cruise missile?

A: I can't help you with that problem.

Q: What about AWACS? There was an awful lot of air traffic in the air. How were they

successful? What were some of the reasons for their success in sorting out and maintaining that air traffic?

A: That's their mission. They're a highly capable system. They handle large numbers of air targets. They do that routinely, all the time. The people onboard the airplane are highly trained, and the radar is very good, so it performs well.

Q: It's been widely reported that rotary wing aircraft and other forces participated in those first few hours of attack against the early warning system, and I wonder if you could help us get a more integrated picture of how they fit into those crucial few hours.

A: I can't help you on that.

Q: I wonder if you could talk about reserve forces. What did they contribute, and what would your assessment be of their performance and their readiness?

A: On the air side, the reserve forces did a magnificent job. The Syracuse Guard unit, Hancock Field, boys from Syracuse, we over there, back from a very rugged air base, turned in a magnificent performance. So did the McIntyre F-16 outfit and the New Orleans Guard. We also had some reconnaissance help from RF-4C units—Reno Guard. Much of our airlift was performed by Guard and Reserve forces and a lot of the aerial tanker force. So in general, they were ready when called on, they were moved immediately, and they were employed the minute combat began, so that argues that they're highly trained and ready to go, and I'm very proud of their performance.

Q: Can you give any kind of percentage, like the percentage of sorties that they flew? Second, if your reserve forces were so ready and so useful, what could other services learn from that? What is the reason that they were?

A: I think it's an easier problem for the Air Force, because the nature of our mission means that it's one that experienced people—pilots, for instance—can serve a tour in the Air Force, get out, go find a job as a pilot in civilian life, and join a National Guard or Reserve unit, so they continue to polish their flying skills. It's not exactly the same as some other combat skills that other services may have to train for. In any case, whatever the reason, the Total Force policy works for the Air Force, and we're very proud of their performance.

Q: You described a 30-day air war as what you had initially expected.

A: No. Through phase three, and then that would be followed up by the land part, in which we would do phase four air support.

Q: OK, but as it turned out, you went a full 39 days before passing to the ground war, and you cited a couple of reasons. Were they the only reasons, or was progress overall a little bit slower than you had anticipated?

A: I believe we made the progress about on schedule. General Schwarzkopf is the one that said we will attack on Day 39. He set the timing on that. He could have done it on Day 30, or he could have waited until Day 46. For him, weather was a big consideration, too, because weather has an impact on land force operations. In any case, he picked the right day. We had some obstacles to overcome. As I say, the principle one was very bad weather. We worked around it, and we worked around the diversion of a significant portion

of our combat power on the Scud problem. But I think it's kind of coincidental that G-Day was Day 39 instead of Day 30.

Mr. Williams: General, thank you very much.