



Maj. Gen. Curtis M. Bedke, USAF (Ret.):

Good afternoon, ladies and gentlemen, and B-52 crew dogs and maintainers. I'm Curt Bedke, a Senior Fellow with the Mitchell Institute of Aerospace Studies. I'll be the moderator for today's panel. And I got to tell you, we got a very impressive team up here today. But before we get started on them, I'd like a show of hands, anybody in the audience that is a B-52 crew dog or maintainer or worked on it, designed it, whatever, just put your hands up. Okay. So when we tell lies, just go with it okay? And anybody here that was not in the Buff but is in some other strategic bomber like the B-1 or B-2? Okay. How about the FBs? Anything before the Buff? How about anybody from the first stealth bomber? The B-117? I had to say that.

Okay, so yeah, you guys got stories and we got stories. Unfortunately, for you, we got the mics. But before we get started, we'll just get this squared away right now. Panelists, please raise your right hand. Do you swear that any war stories you tell will be at least 10% truth? About what you'd expect. Okay, well, however, the purpose of this panel is not to give a handful of old geezers like us a chance to ramble along memory lane waxing nostalgically about the good old days because you guys will do that yourselves after this. Rather, our intent is to reinforce in your minds that the B-52 can and does, but more importantly, will continue to perform as it has for, get this, 68 years now. Its ongoing mission of providing long-range strike wherever it's needed, whenever it's needed, whether it's a nuclear or conventional, either as a quick deterrent or as a rapid response or as part of a sustained air campaign to defend us and our allies and our interests.

Now, how can it do that into the future? Stick around. I'd like to introduce today's panel. We're excited to welcome Colonel Bob Certain, a retired Air Force chaplain and former B-52D and G Navigator who on his 104th combat mission was on the first B-52 shot down during the Linebacker II Christmas bombings in December of 1972. He was a prisoner of war in Hanoi until March of '73. Also joining us is Colonel Mark "Gonzo" Gunzinger, a retired Air Force B-52 pilot, SAASS grad, and former Deputy Assistant Secretary of Defense for Forces Transformation and Resources. He's now with the Mitchell Institute. Gonzo brings not only 3000 B-52 hours from the seventies, eighties, and nineties, but is also one of this nation's premier thinkers and writers on long-range strike and force planning.

We also have with us today Lieutenant Colonel Joshua Nuccio, a B-52H Radar Navigator with over 2,500 flight hours. Nuch is a weapon school grad and instructor with about 350 combat hours in Operation Enduring Freedom and is currently the Bomber Requirements Deputy Div Chief at Air Force Global Strike Command at Barksdale. And fourth, we're pleased to welcome Miles Middleton, a former Air Force Test Squadron Commander at Edwards, and now the B-52 Commercial Engine Replacement Program test pilot for Boeing. Finally, I have about 3000 hours of BUFF time and commanded the Fifth Ops Group at Minot and the Second Bomb Wing at Barksdale. So with that, I'd like to let each of you talk about some meaningful experiences in your B-52 career where you feel like you made a real contribution to our nation's defense.

A reminder, the B-52, first went operational in 1955. It was capable not only of the conventional mission replacing the B-29, B-36, B-47, but it specifically incorporated design elements for the long-term nuclear mission. Popular movies such as Fail Safe and Dr. Strangelove attest to the vivid impression the airplane made on both the American public and our adversaries, yet its real test first came in the Vietnam War.

Colonel Certain, could you tell us a little bit about your experiences flying the BUFF in the late sixties and early seventies doing both the nuclear and the conventional mission?

Col. Bob Certain, USAF (Ret.):

Sure. When I left Nav Bomb School at Mather Air Force Base, I went to Castle to train in B-52s in the F model and was assigned to a G-model wing in Blytheville, Arkansas. Was there about, got combat ready,



stood at alert a few times and then was assigned to a crew going to [foreign language 00:05:54], Thailand in Ds. So we went back to Castle, trained up in Ds, and then flew across in a tanker to Thailand and flew 50 missions out of Thailand and then came back to the states, got re-certified in nuclear missions in the G model, stood alert again. And we were standing alert not only at Blytheville but down at Columbus Air Force Base, which had been a B-52 base, but it was a pilot training base at the time, so we did two sites. And at the time, from those two bases, the alert birds had to be off the ground in eight minutes if there was an attack underway from surface to submarine launch ballistic missiles. So we were all babysitting these airplanes with thermonuclear weapons and had to get them ginned up and rolling rather quickly.

In 1972, at the beginning of Linebacker I and the North Vietnamese invasion of the south around Easter, the president ordered G models to be deployed to Anderson. And so the Gs began shooting over and I was the lead navigator of two left at Blytheville that took those two to Guam in July and we started flying combat out of Anderson in G Models, which was a very, very busy base. We had about, I think maybe 50 D models and about a hundred G models at Anderson and we flew combat out of there. Those were long missions. They were at 13 to 14-hours each and the Gs did not require refueling, so that was good. And then in late December, mid-December when the president ordered Linebacker II and the bombing of Hanoi, then all those airplanes had been fixed. That is, anything that was missing parts, we got parts.

So we had all those airplanes, we're ready to go and we were on the first night as a wave lead. A cell is three B-52s, a wave is three cells, and we were wave lead going against the railroad yard in the northeast corner of Hanoi. And we were coming in from the northwest near the China border. And at just inside of 10 seconds to go on the bomb run the first of two SAMs hit us. Mortally wounded the pilot, killed the gunner, started fires and left the airplane unusable, so we left it.

Maj. Gen. Curtis M. Bedke, USAF (Ret.):

Now's a good time for an advertisement. Are there, in the audience, any B-52 EWs? And if so, please stand up. And from the rest of us. We don't have any on the panel today, but we want to make sure that you're recognized. All right. After Vietnam, in the seventies and eighties, we mostly took a breather from serious combat missions, yet this period was still very much the Cold War and the B-52 saw important changes both in the strategic and operational concepts that were developed. And of necessity, the airplane itself went through some major upgrades and tactics mods. Colonel Gunzinger, can you talk about some of these changes like the RDF and the aircraft mods required and why?

Col. Mark Gunzinger, USAF (Ret.):

Yeah, thank you, Curt. So I started flying B-52s in 1979. Got to my base that I've always dreamed of going to. Guess, guess. Minot. Yep. So after the Soviets invaded Afghanistan, President Carter established something called the Rapid Deployment Force, which became the Rapid Deployment Joint Task Force. And the Air Force formed a Strategic Projection Force out of the 57th Air Division consisting of Minot and Grand Forks bombers to support the RDF commanded by General John Shaud, great American hero. The Air Force upgraded the B-52, the offensive avionics systems. Eventually, we got secure radio certified on Harpoons and other conventionally-oriented missions. But let me just tell you a story to bring home what the RDF SPF was all about.

23rd of November, 1981, 3 ships launched out of Grand Forks, followed by three from Minot and flew, after three aerial fuelings, over to Egypt and we dropped down to 600 feet, coast in and went 600 feet playing with the Egyptian Air Force who were playing intercept the big green aircraft all the way down



south and turned around and came north. And then we were coming up on a bomb run and we all hit the target after flying 7,500 nautical miles within four seconds of our target time.

Now, the purpose of that was to demonstrate to Soviet diplomats, other Warsaw Pact, and of course, our Middle Eastern friends that we can project power from the United States of America within hours to deter or to go on the offensive against you. Aggression in a Middle East, Soviet Union, not a good idea. Here's what we can do. So we climbed up out of that bomb run, coast out, and as we're going by Libya, we got a call from AWACS that said the Libyan Air Force just launched on you. This was the month after the Gulf of Sidra incident With the Navy, where we shot down a couple of their fighters. So we went guns hot and we were waiting for whatever, but then we got a call and said the Egyptian Air Force, all those guys were intercepting you. They took care of it. After four aerial feelings, total of seven, we arrived back in the States and we were the last ones to land because Grand Forks landed and then the two birds ahead of us because we are engine out one going and some trapped fuel.

The good news is our friends that landed in front of us, ice fog. And when we hit mins on our approach, we had to go miss the approach, right over the heads of our wives who were the wing king on the hammerhead. So we climbed back out, landed over at Grand Forks 33.2 hours later after taking off. The wing king at Grand Forks met us on a runway, said, "Shut down, you're not taxing on my airfield. You guys are too tired." He was right. So that ended up being the, and still holds the record, as the longest live bombing mission in the history of the Strategic Air Command. More importantly, this is what you guys do every day. You prepare to fly those kinds of missions, if necessary, to deter as a show of force, and if necessary, God help us, defeat the adversary. So I thank you for that.

Maj. Gen. Curtis M. Bedke, USAF (Ret.):

Thank you. Good time for another advertisement. Do we have any tanker aircrew in the room? And if so, please stand up. There we go, there's one. All right. We all know that we couldn't do this mission of global strike without the tanker force and they do not get enough credit and we just wanted to make sure that we acknowledge them here and thank them for everything they always do.

All right, Lieutenant Colonel Nuccio, you've seen the latest operational use of the B-52. Tell us a little bit about how it's used today, how that's changed and why, and what upgrades and mods have you seen in your time in the jet and tell us a story and we'll take it from there.

Lt. Col. Joshua B. Nuccio:

Yeah, thank you, sir. Appreciate the opportunity to be here today and talk about the B-52 of the present. I got to Barksdale in 2004 and got to go on one of the last rotations out to Diego Garcia with the B-52 and OEF. And what I would tell you is over the time that I've spent in and around the B-52 in the past 19 years is that we've seen a lot more integration capability. Our flexibility from the time that we were deployed to Diego, it would take us almost a little over 10 minutes to swap between variance of the conventional weapons that we were employing in country. And then the crew collaboration, everybody was kind of in their stove pipes within the cockpit of the airplane. And we've seen that develop, the crew collaboration within the airplane with connect coming into the airplane, allowing us moving map and more collaboration between the pilot and offense compartment.

And where that's taken us into the future is certainly a huge game-changer, but the flexibility of weapons has also increased over that time. I had the opportunity to work in weapons and tactics right before the jets deployed back to the Middle East in 2015 and '16 and allowing the opportunity now where we were having to wait and tell the ground parties to hold what you got while we swap over weapon types so we can support you to sending those guys out the door equipped with the capability to interchange between different variants in a matter of seconds to employ and put combat weapon



effects in place to support the ground forces. Meanwhile, continuing in the background all throughout that time to provide strategic deterrence in our ability to reinvigorate the nuclear enterprise and make sure that we offer Stratcom the ability to provide deterrence and assurance to our partner nations through multiple deployments, through continuous bomber presence in the Indo-Pacific Theater. So we've seen many of the same fundamental uses of the B-52 throughout the present day, and now I have the awesome ability to sit there with our requirements team and build the requirements of the B-52 of the future.

Maj. Gen. Curtis M. Bedke, USAF (Ret.):

Good, thank you. Miles Middleton, you're a Air Force Test Pilot School graduate, and you've got both operational time in the BUFF at Minot and test experience out at Edwards. Now, you're Boeing's project pilot for the commercial engine replacement program or the CERP. What can you tell us is ahead for the BUFF?

Miles Middleton:

Well, thank you sir. First off, I'd just like to say thanks to all the friends, crew dogs, former commanders, DOs that are out there in the audience to heckle us. I appreciate you guys. A lot of exciting new things coming for the B-52. There's nine programs in the pipe right now. The big one that I'm working on is the Commercial Engine Replacement Program, should provide clean power, more efficient engines, clean electrical power. So with eight generators on the airplane providing a little bit more power than the airplane currently has and that should provide that power to the radar and crypto mods, avionics, you name it. There's just a ton of activity happening with this airplane. And over the next 10 years, we're looking forward to seeing a real turnaround in the aircraft and seeing it extend for 30 more years. It's exciting. It really is an exciting time.

Maj. Gen. Curtis M. Bedke, USAF (Ret.):

I'll bet. Lucky to have the job. So I guess, if there's a question that we should all be able to answer, maybe because you don't know the answer or you just want to make sure that you can articulate it well, it would be, so really, the B-52? Another 300 years? How's this going to work? How are you going to be able to use that airplane that is so old, continue to use it effectively when other airplanes that have come after it have eventually retired, fallen by the wayside? So I think that's a question that we ought to explore. So I'm curious from you guys' perspectives, what are the things that have changed and just in the time that you've flown the airplane and what do you think are either the changes in the equipment, tactics, missions and so on that allow this to be viable into the future? And not only allow it to be viable, but make it imperative that it needs to stay in the inventory? Because this isn't just because we'd like to have it, it's because the Air Force thinks we need it. So how do we address that?

Miles Middleton:

I was going to say, Mnuchin said it best. I think getting rid of the stovepipe mentality within the airplane. That, while it might've been effective in the past, we need more collaboration within the airplane. And by allowing people to see everything, see the entire picture, we're making the airplane more effective immediately. So the biggest change I've seen in the 20 years I've been flying the airplane is that we've gone from you're the copilot, you do copilot stuff, to you're a crew member and you're weaponeering, you're looking at all these other things, and that goes for every crew member on the airplane. So that's a very significant shift that I've seen. And in the future, as we expand these capabilities, we're going to see



quad crew capability. So actually, decreasing the number of aircrew at risk inside the airplane, which is unheard of for this airplane that has been so compartmentalized.

Maj. Gen. Curtis M. Bedke, USAF (Ret.):

Okay.

Col. Mark Gunzinger, USAF (Ret.):

Yeah. So it's great to see fellow crew dogs here today, but I'll tell you, for those who aspire to fly the B-52 someday, hey, it's going to be around to 2050, so you never know. Why is that? Well, the short story is Billy Boeing built a hell of a bomber. It was engineered for nuclear war, how-to bombing with plenty of swap: space, power cooling and so forth. So you could integrate new weapons systems into it, you can integrate new weapons into it. As a technology's evolved, you can continue to modernize it. And yeah, Curt, you said it's an old aircraft, but based on a study we did when I was in OSD, the airframe really isn't old. It's got plenty of life left. Yes, new engines, new avionics, et cetera, but that's the point. You build a great bomber, it's going to last and continue to pay huge, huge dividends for our nation and it will continue to.

Maj. Gen. Curtis M. Bedke, USAF (Ret.):

Anything to add?

Lt. Col. Joshua B. Nuccio:

Yeah, I think we listened to General Cotton and General Bussiere earlier, talked to us about our strategic deterrence and having a credible force. And the B-52 has been a safe, secure, reliable, and effective force. And the modernization efforts that we're going to take it through, we're going to make it capable of continuing to be that. And how we employ it will look pretty much similar to what we do today with some different tactics like you mentioned. But we'll look to integrate new capabilities along the way to, again, make more collaborative, new communications to be able to have safe, secure, reliable communications to employ the LRSO cruise missile that we're integrating later in this decade.

Maj. Gen. Curtis M. Bedke, USAF (Ret.):

It strikes me that we used to think of modifications to the B-52 as being hardware modifications. For those that don't know, there've been the wing spar changes, some of the models went through the big belly modification to add more conventional stuff there. Obviously, nowadays it's more about the avionics and the electronics and the communications and all those kinds of things. So in terms of besides the CERP changing the engines, can you go into a little more detailed, Miles, in terms of what that means to the rest of the backbone of the airplane to its circulatory system and so on?

Miles Middleton:

Yes, sir. Yeah, so it'll be new hydraulics, new electrics. One of the interesting things, think about that air cart that we always have to drag out to start the engines. We won't need that anymore. It's going to have two, we call them ASUs, but it's like a PTO or a turbine in the outboard struts. And that should provide [inaudible 00:23:38] air to start all the engines two at a time. So interesting change there. The structure's going to change a little bit. The engines will be slightly forward and up from where they are presently. So there's going to be some aerodynamic effects that we're going to have to investigate. Structurally. From the wing back, maybe some effects to the flaps that we're looking at. So that's one concern based on where the exhaust plume is going. But generally, the airframe itself, as Gonzo said, it's



strong, it was overbuilt, it was over-designed, which allows us to continue patching it up where it needs it and adding these new bits of hardware and the software where it matters.

Maj. Gen. Curtis M. Bedke, USAF (Ret.):

Several of you have mentioned situational awareness, communications, awareness of other aircraft and so on. Can you discuss a little bit about what that really means in terms of is there new stuff that's coming on or do you think there's stuff that's already been added on that has sort of dramatically changed the picture of what each individual aircraft sees and how they coordinate with their teammates?

Lt. Col. Joshua B. Nuccio:

Well, I think there's current programs that are in the works. We're working to field Link 16 finally to the B-52 here in the very near future, and there'll be other avionics improvements that'll allow us some more open mission systems type architecture to be able to integrate capabilities faster within the avionics. And I think that's really going to be the game changer as we look to integrate new capabilities further down the road as the B-52J model is fielded, as how agile we can make it to where we can integrate new capabilities faster and allow more capabilities to a war fighter in a much more relevant timeline.

Maj. Gen. Curtis M. Bedke, USAF (Ret.):

Okay. Can you talk a little bit about in an air campaign, obviously we have the B-2, we will have the B-21. So stealth is important. It's important that the B-52 apparently does not have much of that. And so how do you use it in a package or an air campaign with the other resources you've got, and of course fighters, and all your AWACS and all those packages?

Col. Mark Gunzinger, USAF (Ret.):

I'll take a quick stab as put my former force planning hat on, both as former member of the air staff and OSD. I remember back when I was flying in the eighties, we had, I think, 10 B-52s modified to carry harpoon missiles, anti-ship missiles. What a great capability. Today, we need every one of our bombers to be able to carry LRASMs and other future anti-ship missiles because in a campaign to deter or deny the PLA from successfully invading Taiwan or another venture in the South China Sea, only bombers can bring the mass plus range plus precision that we need to stop that first amphibious wave assault against Taiwan to attack the SAGs and everything. The Navy's going to be out of range. They're going to be 800,000, 1500 nautical miles away, and that's not enough range for the carrier air wings.

And the same for our service action groups. They're not going to be able to close enough to bring the mass. So we need the bombers that can do that day after day after day, and we need to ensure that they're modified to be able to do that. So I see this as a new mission space for the Air Force, which we embraced tentatively in the past, but we've got to be gung-ho about it in the future.

Maj. Gen. Curtis M. Bedke, USAF (Ret.):

Thank you. We still get questions, as we should, because we should be able to answer all these questions, about the nuclear triad and the B-52's role in that and whether that role is essential or whether it's not. I wonder if any of you would like to address that.

Lt. Col. Joshua B. Nuccio:



I think it's absolutely essential. We have to keep the air leg of the triad strong and relevant to provide that capability to the combatant commander, US Stratcom, and then to the president of the United States. So he has the options available to him, I would say when you look at the B-52, it's absolutely symbolic and as the signal of deterrence. It's the most visible deterrent of the three legs of the triad, the air leg. We've seen over the decades of the B-52 being in existence, its relevance in being able to go around the globe and influence and shape and deter. We're flying bomber task force sorties today to fly around into the different geographical AORs and assure our partners and allies and deter the adversary. So it's absolutely still relevant and will continue to be out to its retirement.

Col. Mark Gunzinger, USAF (Ret.):

Yeah, our bomber leg of the triad is the most responsive leg. We can go and generate to alert, many of you have, within hours if necessary, is a signal of our determination, a signal that we are watching, don't do it. We can launch, we can deploy, we can disperse. All, again, these are signals that we can send a potential aggressor to deter them from escalating from a crisis into an actual conflict. And I'll say this, I'm going to say it again tomorrow at the B-21 panel, please come. It's a two-for-one deal. Bombers, nuclear capable, they serve nuclear deterrence, they serve conventional deterrence. It is the most cost effective leg of our nuclear triad as well.

Maj. Gen. Curtis M. Bedke, USAF (Ret.):

Excellent point.

Col. Bob Certain, USAF (Ret.):

And you also have to remember that it's the only one that can be recalled. It can hang out there in a threat position, but when you launch a submarine-launched ballistic missile or a land-launched ballistic missile, it's gone. And you can't say, "Oh, second thought, come back." But they can tell the aviators, "Okay, you can stand down and come home."

Maj. Gen. Curtis M. Bedke, USAF (Ret.):

I appreciate that. I wanted to make sure that that word recallable was out there. And in fact, of course, those two characteristics play with each other, recallable, and the ability to use it to fly as far as you want to make the point to somebody that we have this capability, do not make us use it. And I think that those are really important. All right. Let's talk a little bit about emerging technologies. Maybe somebody can discuss weapons that they have carried and used in the past and then the evolution that you guys have seen in new weapons and capabilities coming along throughout your careers.

Miles Middleton:

I'll tackle this one first. I was lucky enough to be able to drop hard iron bombs in Diego Garcia, or not in Diego, but we actually flew up to Afghanistan when that was fashionable. And we had JDAM and Wickham D back then, and that was kind of neat. It was kind of the cutting-edge weapon at the time. And then I went to test and I was able to start exploring all these other new weapons that people were bringing on. Anything from MALDs miniature air launched decoys, to the massive ordinance penetrator. There might be a crew back there somewhere that, they're waving, that was involved with this massive ordinance penetrator testing. So we did the risk reduction testing for the B-2 and they fitted one in the bomb bay of the B-52. So yeah, that was an amazing test. The first one that came off, came out the bay, flipped over, forgot that it was bomb, tumbled and it might've taken out a turtle preserve. I'm not sure on that. That might be 10% true or something.



But then from there we went on with testing hypersonics and the X-51 was one of, well, the first hypersonic scramjet-powered weapon that I was able to be involved with. And that was fantastic seeing that thing, the plume going out for miles and miles ahead of you. There was a lot of buildup to that and it wasn't just something as simple as going out and dropping this missile, but it was pretty cool. And now, seeing that come full circle 10 some-odd years later where we're building these hypersonic weapons to tackle those long distance threats, to deal with the standoff capabilities that we need to have to allow the stealth aircraft to get in. So that's exciting for me.

And then, just talking about some of the future capabilities. We were talking about collaborative combat aircraft yesterday, that's tremendous. We could really load up this airplane with something like a CCA or multiple CCAs that have different roles. And so there's a lot of potential with this airplane, mainly because it's such a big dump truck, for lack of a better word.

Maj. Gen. Curtis M. Bedke, USAF (Ret.):

For them, TCAs, you said?

Miles Middleton:

For what?

Maj. Gen. Curtis M. Bedke, USAF (Ret.):

You said TCAs?

Miles Middleton:

The collaborative combat aircraft, CCAs. Yes, CCAs. So opportunities abound.

Maj. Gen. Curtis M. Bedke, USAF (Ret.):

All right. I'm curious, Bob, what were you guys dropping back when you were the [inaudible 00:33:45] carrying around with you? Things have changed over the years.

Col. Bob Certain, USAF (Ret.):

Just a little bit. Yeah, we only flew with dumb bombs. You drop them and they always hit the ground. That was kind of a nice thing that happened. We fly in cells of three. The D models could carry 108 500-pounders and cause a swath of total destruction about a quarter of a mile wide and four miles long. The G models didn't have the big belly and we didn't carry underwing stores, so we were limited to internals. We dropped 750s, 27 750s, which was just a couple more than an A-7 could carry. But we did it and we accomplished the mission. When we went over Hanoi, it was predicted we'd lose 20% of our airplanes and none of us figured that was good odds. We flew over 700 strikes against Hanoi in 11 nights and lost 10 airplanes over the city, damaged five more to the point they had to eject over Thailand, but 15 airplanes on the ground was under 2%.

So the airplane has proved itself to be very resilient in a very hostile atmosphere flying against surface-to-air missiles. And when the A-2 was first developed against the B-52, nuclear tactics were to go low level terrain avoidance to get under all that stuff. I wanted to be low level going over Hanoi myself, but that was not the mission. And at the time, the D model still had Norton bomb sites as well as radar. The F models had the Norton plus the radar, the Gs had the radar only, the H's had radar only. So with time, you get improved, A, capability in airplane that has proven itself to be extremely resilient under horrible conditions. But dumb bombs was my game.





Col. Mark Gunzinger, USAF (Ret.):

Yeah, I remember dropping a few of those dumb bombs. And from a high altitude, score is less than a thousand feet, pretty good day. [inaudible 00:36:13], a bit better. But on the CCAs, collaborative combat aircraft, un-crewed, miniature, lower cost aircraft, Mitchell Institute just led a war game to explore different uses of CCAs in several counter-air missions in a 2030 Taiwan defense scenario. B-52s were selected by air teams on any prompting to carry a CCA that could be launched over very long ranges and carry three air-to-air missiles into the battle space. It was really a pretty cool operating concept. And that is how far we've come from dumb bombs to all the way to miniature aircraft that can launch air-to-air weapons. That's, I think, where we're going with the B-52.

Maj. Gen. Curtis M. Bedke, USAF (Ret.):

Anything to add, Bob? Okay. All right. It's worth noting that we've gone from bombs to, at point, there were missiles on the D models. I remember the locations for the instruments that had been yanked out for being able to carry missiles and fire them up off the airplane.

Col. Bob Certain, USAF (Ret.):

We had one jet-powered hound dog missile that had about a mega-ton worth of punch to it that we carried under the wings of the Gs. And we did practice with those from time to time and it was a nice thing about having a 10-engine takeoff. But the SRAAMs were just coming in at the end of the war in Vietnam, so we had not been equipped with those yet. The rotary launchers were thought about, but were not implemented yet. And now, those are yesterday's news.

Col. Mark Gunzinger, USAF (Ret.):

Yeah, the SRAAMs, the SRAAMulas as we used to call them, they're a pretty cool weapon system. And then of course, the ALCM. Now, you name the cruise missile, the B-52 can carry it if we paid for the integration.

Maj. Gen. Curtis M. Bedke, USAF (Ret.):

I'm reminded that throughout my career, I always thought when I heard there was a new upgrade that it was like, oh, that'll make the mission easier and maybe even safer. So it's like, [inaudible 00:38:37] so you can go in deeper. Well great, thanks. Then it was okay, now we're adding cruise missiles. We can fire the SRAAMs. We can fire the cruise missiles and go home. No, now you can go even [inaudible 00:38:57] capable. The first time I went on alert with the cruise missiles, the ALCMs at Griffiss, I was the second crew to go on alert with ALCMs and I realized that my one airplane at Griffiss, which was the only one at the time that was on alert with the ALCMs, made me like the third most powerful nation on earth by myself and my crew. Kind of scary, kind of cool. But that continued, of course, ALCMs, and then ACMs and then CALCMs and now we see a proliferation of new capabilities that are coming on. You're hearing about the CCAs and so on. So if a weapon has been on an airplane in the Air Force inventory, the odds are that it's been on the B-52, either operationally or perhaps being tested. So an amazing thing. All right, we are coming close to the end of this session, so I think I'll wrap it up.

The B-52 bomber has been a crucial part of America's military force structure for over 60 years. It first came on operational duty in June of 1955. I was conceived in June, 1955. I don't think there's a correlation, but I'm not sure. As our adversaries continue to evolve, as the threat continues to evolve, I think, hopefully, you can see that the hardware is evolving, the software is evolving, the mission concepts of being part of a massive package where you are providing situational awareness to the rest of the package and you are getting SA from the rest of the package where you are using your capabilities



in concert with the other aircraft. So the Stealth bombers have a mission and we have a mission in the B-52.

I think that's important to understand that this is, in fact, not an airplane that's being extended because we can, it's being extended because we can and we should. It's good value for the nation. And always remember that it's also got that nuclear mission that has served us very well for many, many decades. I want to thank the panel for coming here today and we'll see you guys at the bar. Thank you.