



GLOBAL  
ZERO

A WORLD WITHOUT  
NUCLEAR WEAPONS

**Global Zero Summit**  
**The Ronald Reagan Presidential Library**  
**Remarks by General (Ret.) James Cartwright**  
**October 12, 2011**

*Amb. Richard Burt:* All right, why don't we get started? Is this working? I'm going to try to bring this unruly group to order here. I hope everybody enjoyed our gala dinner last night. I think that we all are certainly in the debt of Secretary of State James Baker. He did a marvelous job, I think, in continuing our dialogue.

This morning we are very happy to bring what might be called a true operator to the table. James Cartwright, during his tenure, as a member of the Joint Chiefs of Staff and a senior serving officer in the US Marine Corps, developed a very well-deserved and well-known reputation as being somebody who is both very thoughtful and very open to discussion.

He, as I mentioned, served as the 8<sup>th</sup> Vice Chairman of the Joint Chiefs of Staff until he retired early last month, and in that role he chaired the Joint Requirements Oversight Council, he co-chaired the Defense Acquisition Board, and served as a member of the very influential National Security Council Deputies Committee and the Nuclear Weapons Council and the Missile Defense Executive Board.

I think we're lucky for really two reasons to have General Cartwright with us today. First of all, as I indicated, he has just left government, so he's pretty up to date, I think, on his ability to talk about and explain the current environment in thinking about nuclear weapons and arms control.

Secondly, I think it's important for us, at least some of us, to get a military perspective on the issues we are addressing. It's too easy sometimes to let academics, diplomats and journalists dominate in meetings like this. So I think we're very fortunate to have General Cartwright with us this morning. I think he is going to talk in an informal way not from the podium, and share with us some of his thinking about the changing role of nuclear weapons in defense strategy, issues of command and control, and cost issues associated with nuclear weapon. General Cartwright, you have the floor.

*Gen. Cartwright:* Thank you. I retired, I guess, about a month ago, and I'm still recovering from my time in active service, but I thought that the approach today that I

would take is to spend a little bit of time discussing kind of where I see at the strategic level we are going as a nation, and what the opportunities might be in front of us and how we might take advantage of them. I'll probably be a little more negative about this, just to irritate you and get a discussion going on these issues, because I believe they're critically important to our country, they're critically important on a global scale, and they deserve probably more debate than they've been getting. So I'll probably be a little confrontational here, but we'll go with that and see how it works out. That's part of the Marine in me that I haven't gotten rid of yet.

In context for the United States, we are now in our tenth year of war. There's no historical precedent for us in that context. We have not done this before. We have several generations now that have experienced this. For our military, we are about one percent of the nation's population at any given time, and yet the burden that's being carried by that one percent in this long enduring conflict that we have been involved in in Iraq and Afghanistan has been significant.

We are also a nation that is facing right now around \$14 and a half trillion dollars worth of debt in a global economic downturn, which we have to come to grips with, and which many people in this country would say, "Gee, if we were just not at war" or "if we just didn't build that airplane or that ship or something like that" somehow that would solve that problem. And the reality is you could shut down the entire Department of Defense for ten years and you would not pay that debt off. So we have again another precedent here that we're going to have to come to grips with as a nation. And you can look at it as "woe is me" or you can look at it as opportunity. You just have to decide which one you want to go after.

For our strategic forces, just to put this in context, normally after a conflict – whether it was Vietnam or Korea or you pick it – there's generally somewhere in the neighborhood of a 20 to 25 percent reduction in the resources available to the national security side of the equation in this country, that's just the way it's gone. The discussions that we've had thus far over the past few months, talking about \$480 billion for the Department of Defense over a ten-year period, is not quite ten percent. So our expectation is that we are but at the beginning of a downturn and a drawdown. And the character of that drawdown is something that's extremely important to the nation, globally, and certainly in my role when I was in the department.

The reality of the force that we have today is three pillars that probably have not been balanced in the way they are today in the past. The first is the emergence of a relationship between the intelligence community and our special operations forces. It's been very powerful. We have partnered up with most of the nations in this room in various ways and those forces to keep terrorism under control globally, to keep proliferation under

control globally, to understand what the threats are against our nations, and to do so in a way that's very integrated between intelligence and our general purpose forces. We call them our special operations forces.

Those forces in the United States are funded out of the general purpose forces, which is the second pillar. That's the services – the Army, Navy, Air Force, Marine Corps. In the past ten years we have moved from a very agile maneuvering force to an occupation force. We operate out of bases. We go out during the day and patrol and we come back to those bases. We're a very heavy force. We can't move by air or ships any more because our equipment is so heavy. And the question that we're trying to understand is, is that what we want to be when we grow up? In other words, as we recapitalize this force, what are we going to recapitalize to be able to do? What does this nation want us able to do? It has to answer that question, otherwise we'll just continue to buy what we buy.

And the third force is the strategic force, and that's, for the United States, our Triad. Along with that Triad though, are the intelligence, surveillance and reconnaissance capabilities, the cyber capabilities, the bio capabilities – all of those things that are strategic in nature are in that third bin. Again, that is not a service. All of the money exists in the general purpose force. So when we turn down, we generally take the money out of the strategic and out of the special operations side of the house. And yet right now, they tend to be the most leveraging activities that we have going. So we have to make some key decisions as we come up.

We are at a 50-year inflection point in the department. We are about to recapitalize most of our capital assets, which will have generally somewhere between 30 and 50 years of life. So the decisions we make about our submarines, the decisions we make about our ICBMs, the decisions we make about our bombers, are 50-year decisions. And in a drawdown, we tend to go incrementally.

Instead of figuring out what it is we want to do from a strategic sense and decide what we want to have as a capability in national security, we salami slice – we take a little money here, a little money there, thinking that will pay the bill, and then the next bill comes and we take a little more and a little more, and it's called hollowing out the force. And then we build a strategy around it, instead of the other way around nine times out of ten. What we ought to be doing is deciding what it is we need to feel secure as a nation, what our contribution on the global scale is going to be and how we're going to interact, and then what is it we're going to prioritize, because there's not enough money to buy all of that.

If we recapitalize the strategic forces in the venue that they are, into the Triad, there is insufficient money to do that, and that leaves no money for the other two pillars. It's not affordable the way we're moving right now. Just to recapitalize the bomber is not affordable. We're on a path in this

country where we had hundreds of B52s. We had 100 B1s. We've got 20 B2s. Is it one more airplane, the next bomber is one per coast? If we continue on that path, we've got a real problem. And the same is true for submarines, the same is true for ships. It is a real problem for us. Or, it is an opportunity to decide what we want to be and how we want to do it, and to prioritize, and we have not taken that on.

We've done all of the bureaucratic reviews, the Quadrennial Defense Review, the Nuclear Posture Review, the Missile Defense Review, the Space Review, the Cyber Review. We've done all of that. Now what we have to do is put the leadership to decide what we actually want to do and where to put the resources, and that's going to be a very difficult problem in this country, but it's one that's got to happen.

When I look at all of those reviews, all of them beg for some sort of a construct of what is deterrence in the 21<sup>st</sup> century? What is it we're actually trying to prevent in a world where the preeminence of the nuclear weapon is not what it was in the Cold War? For me, the people that I deal with day in and day out when I go to the field, if you say Cold War to them, if you say the Berlin Wall, if you say the wall falling, they look at you like, "Well, yeah, I guess I heard about that in my history class, but I don't know much more about it than that." That's the reality of the people that are out there day in and day out on national security either fighting the wars or in the USAID side of the house, you pick it, in the State Department.

That's their context, and that's something they remember from school, but not something they remember from practice. And the idea that we would recapitalize in that ilk seems to them disconnected from the realities of the world that they deal with day in and day out. It is a reality that we have to accept.

So in looking at what it is that we would aspire to do in the 21<sup>st</sup> century in a model of deterrence, the realities that we have to face day in and day out are not bipolar with one other country; they're multipolar. They are not everything that happens has a return address on it and you know exactly who did it. That luxury is long gone. That luxury is gone in cyber, that luxury is gone in bio, in chem, and really it's disappearing in nuclear, much to our chagrin. Attribution as an assumption is long gone.

So the combination of capabilities that are kinetic in nature, the combination of capabilities that are non-kinetic in nature, along with diplomatic and financial and economic type skills, have to be brought to bear in a way that understand the realities of the world we're in – not the realities of the world we wish we were in. We have to deal with what we actually have out there.

And so as we look to the future, what is it we want to do? What is the toolset that we want as a nation, and what is the toolset and how does it fit together with the broader context of the global community? What is the place for nuclear weapons, if at all? What is the place and the capability of things like missile defense and cyber? How are we going to work in a world of bio? And for me, what is just around the corner and to me will probably be as leveraging as any of those weapons, is quantum computing, and it's within a year or two. And it likely will change how we think about all of these things. And it certainly will change how we use all of these things.

If you haven't sat down and thought about the implications of that kind of computational power, it's a train coming at us right now. And it's going to be hugely leveraging to the good, which means it's going to be hugely leveraging to the bad also. And we've got to think our way through that. And if we're thinking about investments for 50 years and we're not thinking about that, we're probably missing a key activity.

You know, the reality here – and we've had a few of these discussions already this morning as I was grilled at breakfast, and I wasn't part of the meal I didn't think – if you look at something like cyber and somebody attacks this nation or another nation in a way that undermines their economic framework, undermines their banking or takes out their electric grid or something like that, most people believe that capability is probably two to five years off. What does a second strike look like? What are the diplomatic conditions that you would want to have set in place when you don't know for sure who did it? All you know is that your country just has a good chance of going under, either out of panic or out of a lack of services, you pick it. It's devastating.

If we're not starting now as we recapitalize to think about the combinations of diplomatic and military force capabilities, the combinations of those in relation to things that may be attributable to a specific act or may not, but certainly feel really bad to you when it happens to you. It certainly has the ability, when you think of a Wall Street basically being incapable of continuing to act in an economic sense or in any kind of business sense, the implications are significant.

We haven't even really started – even though the reviews are out – on bio, and how devastating that could be to a nation-state. And how are we going to start to understand those, and what does a deterrence construct look like that has to be flexible enough to handle all of those kinds of threats? And are we going to put all of our money in one, say, nuclear, and ignore the others? I would say that would be to our peril. We have to think about this more holistically, and it's only going to happen...

We've done the reviews. We've done the investigations. Now it's time for leadership in these issues. Now it's time to make some decisions,

hopefully ahead of the activities rather than behind them; hopefully as conscious decisions rather than the outfall of financial decisions on what we could afford. We must prioritize these things.

In this multipolar world, the reality is that proliferation is on the ascendency. The likelihood that these weapons are going to in some for or another proliferate around the world is going up, not down. The people who aspire to them, both as nation-states and as non-nation-states, is growing not decreasing. So again, what is it we're going to do to put in place that would say to people who aspire to these weapons, what you aspire to is not going to serve you the way you think it is.

We're having a hard time convincing nations right now that that's true. What is it that's going to be different as we look to the future that will convince them that that's not the path to take? Whether they're a nation-state or whether they are a terrorist actor. Most people would say – I would be one of them – that our construct of extended deterrents is failing us. It is not deterring anybody, and it's not making anybody feel terribly safe that they have some sort of nuclear guarantee from the United States.

You only have to look almost in any sector of the world to look at the people aspiring to have nuclear weapons to see that they are not convinced we will be there. They are not convinced that the weapon itself is useful in most of the scenarios they deal with. And so are there better constructs out there as we move to the 21<sup>st</sup> century, to be more relevant to the needs of nations and the threats that they perceive? And they may not be as simple as one simple weapon, nuclear. They may be more complicated. They may require all the elements of national power, so to speak, and more things like cyber, offensive cyber, capabilities that today we are not talking about, and yet clearly could be part of the deterrent strategy if we sit down and think our way through what is it we actually want to deter, what is the most dangerous thing out there, and then what are the most likely things that nation-states are going to have to face over the next 50 years? And thinking about 50 years in a world of Moore's Law is really difficult, but it's a reality. It's the reality we're dealing with.

One of the things – just so this is not just an hour of complaining – one of the things in my mind that we should start to think about in a construct of extended deterrents, in a construct of just basic deterrents, is what is it we want to do, who wants to do it with us, and how might we band together in a way that is far more effective than what we're doing today?

We have missile defense. We have started a dialogue in missile defense that is called the Phased Adaptive Approach in Europe, but the idea here is that it's focused on theatre threats. It gives us a capability to not build a shield, but certainly to reduce the likelihood that all of those missiles would get through coming from an adversary onto a person that's being aggressed against.

If in that construct we said that we would put our defenses on alert, but not our offenses, as we recapitalize, would that be a different approach? Would that be a way to consider those things that we want to have on alert, and how we might band together to create those in large areas rather than just single countries. Because, quite frankly, one country can't afford defenses of that ilk, including the United States, but several countries put together can. And the fact that they're put together and they work together in the geography and the geometry of their defenses, means that they depend on each other. So that if one decides they pull out, they will never be as strong as the whole. And therefore the deterrent strategy applies on both sides of the equation. If you pull out, you're vulnerable.

If we had shared global warning that allowed everybody in every nation to see anything that came off the face of the earth or moved, rather than having that as a secret that we keep just for one nation or two. Such that it would be very difficult for somebody to mount an attack without having indications and warning that everybody would see. And then we could have a discussion about it, and we would have our defensive capabilities on alert, but not necessarily our offensive capabilities.

Today if you need to reach out and touch somebody on the other side of the earth because they have attacked you in a way, or attacked your neighbor or whatever, the only thing that the United States has that can do that – in hours, not weeks – is armed with nuclear weapons. Does that make any sense? Does the first shot fired have to be nuclear? Can we think about alternatives? The new START treaty allows us to think about alternatives in a conventional sense, so that the first reaction does not have to be a nuclear reaction; that there's an opportunity to slow things down and to have a discussion before we move to that venue.

The idea and the discussion about what it is we want to recapitalize to, what the attributes of those systems out to be, whether we want to have more warning, whether we want to have less offensive things on alert and more defensive things on alert, whether we do this in cyber, whether we do this in bio, whether we do this in general purpose forces or strategic and nuclear forces – what is it we want to do? What is the world that we want to build for our children and we go forward?

The studies are done. The technology's done. This is an issue for leadership, and we just have to decide that this is where we're going. And it's not easy. I'm not wishing away hard problems here. But it is in the hands of leaders.

I think I've been able to irritate you enough. I'll turn to questions and answers.

*Amb. Richard Burt:* Thank you very much. *[Applause]* Well, General, I think I can speak for everyone in saying your remarks were very refreshing. Not simply because they were delivered by a military professional, but I think you've gotten us a lot to think about. I'm struck by your argument that we're at, what you called, a 50-year inflection point in thinking about what US force posture will look like into the future, but I think we could extend that to be really a comment on what the international community will look like over the next half-century.

I'd like to get the ball rolling by picking up on two issues you raised, and get you to maybe flesh out your thoughts a little bit. The first, your point about – if I can put it in a nutshell – there are a lot more things we could spend on than we're going to be able to actually do. There are many options for us out there. As you know very well, in the new START treaty debate, the administration agreed to spend a lot of money on our nuclear weapons complex in the hope that this was going to lead to additional support for the treaty, and of course the treaty was in fact ratified.

But now, I'll try to ask this as diplomatically as possible – as you think about all those options out there for us, is this going to be money well spent? Are we spending this \$88 billion dollars I think it was on our nuclear weapons complex, is that really necessary to stay in the nuclear game, or what's your thoughts about that?

And a related question, thinking about arms control – and you raised this in your remarks, the missile defense issue – that's also going to be enormously expensive. I was struck by your point that countries working together could share that cost, countries working together could share the cost of missile defense, and the first country that comes to mind there, because it's become a sensitive negotiating point, is the Russian Federation. Do you think we as a country are prepared to go far enough to work out a common approach with the Russians that we can overcome their concerns about our program?

Yesterday we heard from George Shultz that when Ronald Reagan was talking to Gorbachev about that, Reagan was actually talking about sharing technology. Could you envisage a situation where we would be prepared to go that far with Russia and other countries, where we're not just working out kind of compatible systems, but where we're actually prepared to work out really integrated systems in which we shared technology?

*Gen. Cartwright:* Let's see, both of those probably could be thesis work, but on the issue of the amount of money associated with recapitalizing the nuclear infrastructure. I think the number of dollars is going to move around, and whatever that ends up being it'll end up being, but the opportunity here is that it is not likely for the next 10, 20 years that we're going to eliminate nuclear weapons that quickly. And the bulk of the weapons that we have

in just numbers count. Forget the arbitrary characterizations of the weapons – in the stockpile, out of the stockpile, deployed, not deployed etcetera.

The total number right now is driven by a 1950s technology that basically spared everything at the end item. So in other words, every weapon is a full up, round and complete, and in order to do anything with that weapon, if anything goes wrong there you've got to have another weapon because it doesn't work at the component level. If you're going to change that, you can massively reduce the number of weapons that exist just by changing the construct in which you maintain them at the component level. So sparing and things like that do not have to be with additional weapons, they can be with components. We can drastically reduce the number of weapons that we have in this country doing that.

So if we were to put that money in and what it resulted in is a massive reduction in the number of weapons, it's worth the money. We're probably not going to zero in that amount of time, but that's what it's there for, is to right size that infrastructure back from the years of mass production to something that makes sense today, in an inventory construct that makes sense today, to allow whatever weapons we have to be done with the least number of weapons rather than the large number that we use today.

So today, I was supportive of that money because it would do that. It would actually allow us to reduce substantially. Will we realize that with the Department of Energy in the labs? I think we have the potential to, the technical skills are there – the question is, will we do this as a political decision also? And I hope that that's the case.

From the standpoint of missile defense and the issues that were associated with START, and also with the Russians in how we go forward, but also more broadly globally – missile defense is expensive, there's no doubt about it. Offense is expensive too; actually more expensive in this case. What is unique about missile defense from my perspective, and certainly in my years of pushing hard on this area to build a credible missile defense capability for the nation, is one, it's a theatre defense system. It is not a strategic defense system. It's built to protect theatres. That's why we've talked about the European Phased Adaptive approach, the Middle East, the Pacific etcetera. It is a regional capability; it does not really have any capability against strategic type assets. It could if somebody said to us we want to go in that direction, we could probably do it, but it would be a whole new program.

But what is really unique about it is it's agnostic to the sensors, the command and control and the weapons. It doesn't care whether the weapon is a Standard Missile-3 from the United States Navy, a Patriot from the United States Army, an Arrow from Israel, it doesn't matter. You

do not have to buy American to integrate into that system in the Command and Control or the sensors. The sensor systems that we have associated with missile defense today already deployed come from a multitude of nations and manufacturers. It doesn't matter. The system's agnostic to that. That's one of the values of what we've been able to do in a digital world.

So it is integrated. We have talked to the Russians about integrating with their radars, integrating with their system, integrating their weapons into it. That's a decision they have to make, but it's a decision that's up to them as to whether they participate or not. Their concerns thus far, as articulated to me in the dialogues that we have, are the potential that it cross over into a strategic system. That's easily monitored, that's easily understood, that's easily based to take away that ambiguity if we so want to do that, if they want to do that.

The larger implication for them, though, is one of an integrated system and becoming part of that integrated system and the implications of doing that and of being part of it and recognizing that most of the time you have a system that is comprehensive, but if you decide to pull out, you don't. And are you going to have to build one that's separate from that that would protect your country or not – we're working our way through the technical issues. There are no technical barriers here. And the question about are we willing to work with them and disclose that technology, we already have. We've already told them we will do that.

My sense, though, before you do missile defense is that you do warning. It is much easier to move to a warning construct, a global warning construct, based on the ground in radars and based in space in satellites, that can take the multitude of assets that are out there today from all of the different countries and just integrate them together, so that nobody in the world need not know when something leaves the face of the earth and where it's going. There's just no reason not to know that. And no one country needs to bear that burden.

It's not unlike GPS. Today we have GPS in the United States, we've got Beidou and one other kind, we've got GLONASS, I mean there's no reason that we couldn't have one system that basically integrates the different countries. There's no reason for that. We just don't. That's a decision. That's a diplomatic, political, leadership decision -- not a technical decision. The ability to understand this and know this and to distribute globally warning is not a hard thing to do, and it doesn't compromise anybody's system. It doesn't say that the United States will have that and they might play around with it and not tell you what's going on. There's no reason to have a system like that. We can do this.

If we decide to do it, it fundamentally shifts the value of things like ballistic missiles, short and medium range ones, that are proliferating all

over the world, because everybody will see them. Everybody will know who shot it. Everybody will know where they're going. To the extent that they want to avail themselves of defense to prevent that activity – not eliminate it but prevent it and to change the calculus of somebody who would launch a missile – that's readily doable today. We just have to have the will.

*Amb. Richard Burt:* Thank you, I'm going to open it up and call on Admiral Yang Yi.

*Rear Adm. (Ret.) Yang Yi:*

Thank you, Mr. Chair. So, General, thank you for your wonderful presentation. And a former US Chairman of Joint Staff, I \_\_\_\_\_ that the threat and the challenge for US and national security is not a one or two new weapon systems, it's increasing a deficit. So you just said that the US military are facing the budget cutting in the coming years. I have two small questions.

The first one, between the nuclear and the conventional weapon systems, which one will be facing the larger and bigger cutting? And the second question that is among the forces, Army, Navy, Air Force or Marine, or even Navy and Marine are considered a department Marine team and a Navy team. So among these forces, which one will be most affected by this kind of a budget cutting? Thank you very much.

*Gen. Cartwright:* In the resource side of the equation as it's set up for US forces, the money and the decisions and the bias is towards the general purpose conventional forces. And the Navy and the Air Force own the bulk of the strategic forces. And if they're given a choice where they spend their money, they don't spend it on the strategic forces. Nor do they spend it on the special operations forces at the other end, and there the Army is also a player. So that's one of the difficulties we have as a nation is that absent direction, absent a known strategy and set of priorities, the default is that we will buy more conventional capability and capacity.

*Amb. Richard Burt:* Minister Çetin.

*Min. Hikmet Çetin:* Thank you very much. Thank you very much, General. One of the hard issues in my own country is defense, because we're going to be deployed in Turkey very soon, by the end of this year. And discussion is going on, a very hard issue now in Turkey. First of all, of course, the public is not very much informed about this, which is I think the government and the media should have done this. So far it's not done very well. But the most important thing, would it be possible for NATO and US to integrate with Russia, it would be very important for my own country, for the region, to support this project. Because this is a test case for NATO and the United States to work together with Russia in the near future. This is a very

practical question and it is very important for us and for the whole region. Would it be possible to integrate Russia with this project?

*Gen. Cartwright:*

It would be technically possible. The question really is one of will and diplomatically are they willing to be integrated into the system? Do they find the compelling need to be integrated into the system? You, or Turkey, is in a very difficult geographic location as well as a geopolitical location. And the difficulty in the decision process for Turkey is well understood. It is a difficult decision because you sit in a place where you're basically in between two sides, really three.

So the question is, can we solve that problem? My sense is we can, but we have to be clear about what it is that we're building the system for and be able to see and understand that that's in fact the only way it can be used so that it doesn't threaten stability as much as create stability. And I think that dialogue just has to keep going. The more we talk about it – we being the United States and Russia – the more the understanding is improved, the more the mythology goes away, the more we understand where their concerns are, particularly on the strategic side and on the proximity side to their weapons.

So to me, the only way forward here is to keep that dialogue going, keep it informed, and make sure that everybody understands what the intent is, and that they're convinced that the system actually meets the intent and not something else.

*Amb. Richard Burt:* Major General Zolotarev.

*Maj. Gen. (Ret.) Pavel Zolotarev:*

Thank you. I am going to ask my question in Russian. First of all, I would like to remind you that in 2006 we received a large group of Russian generals that headed Russian command. I have to repeat that. In 2006 when you were heading strategic command you received a large group of Russian generals and scientists and three of them are here – General Esin, Colonel Yarynich and myself. And I want to thank you for this reception once again and for very interesting dialogue that we have established back then.

Secondly I listened to your thoughts, modern and meeting the needs of today with great interest, and I think that they're in compliance with the problems that we run into related to new approaches to deterrents. Here we mostly work around the idea of Global Zero.

Conditions should be complied with which would allow not to contravene – to make sure that the missile defense system does not contravene with the goals of Global Zero. And you are absolutely right when you noted that now the emphasis is put on a missile defense system, and you were

right that this system does not pose any threat for Russia because we did not have medium range missiles. But we do have nuclear nations for which such system poses a threat, and therefore they will exercise restraint with regards to the goals of Global Zero and nuclear arms reduction.

As far as regional missile defense is concerned, they will make sure their nuclear forces are more viable, that they are expanded, and that is in opposition to the goals of Global Zero.

So the answer to this question probably lies in the integration and in the information area, but I would like to hear a more specific answer. From your standpoint, what conditions should we develop in order to make sure that while we cooperate in a missile defense area and developing missile defense systems, we simultaneously create a situation where Global Zero goals could be met.

*Gen. Cartwright:*

I think those are good questions, and I do recognize you, it's good to see you again. Those talks when I was at Strategic Command were very valuable. We also drank a lot of wine. But to me what you're talking about is not a technical problem; it's a problem of what is it that we want in attribute sense the system to do, and what incentives do we want it to reinforce, and which ones do we want it to make sure it doesn't. And that's only going to be enabled by a good, rich, frank dialogue on that, because we can build anything. The question is, what do we want it to be able to do and not have a second order effect that is counter to the basic premise here of Global Zero. In other words, we want this system to disincentivize short and medium-range ballistic missiles so that they are not the value that they are today and their proliferation goes down. In particular we want to make sure that they're not nuclear in nature or weapons of mass destruction.

So we've got to make sure that the system can do that, and that it differentiates and only does that, and that the negative side of it isn't a second order effect that would somehow incentivize tactical or theatre weapons. I think we can do that. That's not that hard. The question is getting the dialogue and having the strategy in front of the invention rather than the invention and then we build a strategy to it. So I'm in agreement with what you're saying – I just think we need to sit down now. We can make this system do what we want it to do. We just need to have a clear understanding of what it is we want to be able to deter and to disincentivize.

I also think on the missile defense side that we are better served starting with missile warning, because that, everybody I think can agree, has value. The value for being warned that something is happening is ubiquitous. How we defend against it is something that we have to have a much more rich dialogue on. But the trust that would be built by having a warning

system for all would be significant in furthering the goals of integrating our defenses.

*Amb. Richard Burt:* Back here in the third row.

*Vice Adm. (Ret.) Yoji Koda:*

General Cartwright, thank you very much. I am Vice Admiral Yoji Koda, retired, the former commander in chief of the Japanese fleet, and also in charge of Japanese Maritime BMD. So I agree with most of the opinions of the future opportunity of integrating the European theatre, or Ballistic Missile Defense system. But at the same time, the reality is not so easy, because we need very strong and close coordination with allied nations.

For example, in Japan, without the very strong ties with the United States, the real BMD was impossible. But still it's possible, why? Because of the close relationship with Japan and the United States. And in theory, and technically, what you have said in the European Ballistic Missile Defense, you are right. But at the same time, my observation, much more close coordination between the original NATO nations, newcomers in NATO, and also the Russian Federation, for example.

If in the European theatre, the real cooperative BMD posture should be built, much closer coordination is necessary, and it's not an easy thing to do I believe. But at the same time, I think the more the difficulty is, the better opportunity for the European nations to coordinate. But please tell me something about the real existing problems which makes the European coordination a little more difficult and it takes longer time than what it should be. So if there are any real problems in Europe, I'd like to hear your thoughts on that. Thank you.

*Gen. Cartwright:* I'm not sure, at least from my experience, that the European activity is any more difficult than anywhere else in the command and control side of the equation. Each country wants to retain a certain element of sovereignty, but also be aggregated into the value of a group. That's true in the Pacific as well as is true in Europe. And the reality is that the technical solutions are there; it's a question of coming together and understanding what it is we want to be able to do. That's why I tend to believe if we start with the warning system, which is compelling, and build the trust and the confidence in the command and control, that then moving to the defense systems will probably be an easier step than starting with the defensive systems.

*Amb. Richard Burt:* Professor.

*Prof. Ciu Liru:* Thank you very much, I appreciate very much that you pointed out that we are coming to a very different world, that is a multi-polar world. I'm thinking at this moment we have to think big. Of course, the technical

things are important. In this multi-power world, first and major countries become more inter-dependent, although we are all not partners, but at least we are stakeholders. And the war between the major powers much, much less likely than before. We have more common interests than we have divided conflicted interests, and as you pointed out, we have to work together to address a lot of challenges which are common.

So how much do you think these kind of strategic huge changes should make us where we should think differently in our relationships, in our strategic thinking, in our military thinking? And we are lacking seriously the strategic trust, mutual trust in each other, the trust between China and the United States, United States and Russia, China and to some extent India, China and Japan. Do you think it's time to change some of the traditional old type of thinking and to have different things, then we can work together. Thank you.

*Gen. Cartwright:*

I'd rather be in charge of the technical things, because what you're talking about is the really difficult work – relationship building, trust building, understanding the value. In some cases, changing how we think about the world and how we think about each other. Those are the types of things, whether you're in industry, whether you're in government, those are the most difficult issues to work your way through. It's the people side of this equation.

From my perspective on a military side and a technical side, as I talked about warning, I'd rather start with things that we could all agree on, build on those, and then take on the more difficult things when we understand that we have a good underpinning of a relationship and a foundation that would in fact sustain that and support it. Part of what we're doing here, and part of what we want to be able to do – whether we're talking about nuclear weapons or missile defense or warning – is to understand how we can build trust and confidence in the enterprise. That's at the essence of what our goal is here.

If we can build an environment where we believe we can go to zero on nuclear weapons, if we can build that environment incrementally starting with being able to warn each other when something's wrong, being able to have a dialogue when it's wrong, build defenses rather than offenses that are integrated, then the realization of a zero on the nuclear side is far more attainable than if we try to start without that foundation of trust. And I think that's what you're talking about is how do we go out and build that. That is the hard work to me.

The technical side of this is relatively straightforward. We can build that in any construct we need to. The hard part here is how do we integrate the nations culturally, how do we build trust between each other, and then in the absence of trust, build a confidence that we can see in transparency what is actually going on.

*Amb. Richard Burt:* We have five minutes. We have three questions that I've seen in the group, so I'm going to ask all three questions to make your comment or questions, and then we'll give the last word to General Cartwright. Ambassador Wu.

*Amb. Wu Jiamin:* Thank you, Mr. Chairman. Thank you, General, for your candid presentation. The world is undergoing tremendous change. In the first decade of the new century, America fights three wars – Afghanistan, Iraq, and Libya. As a professional military, what did you learn from these three wars? Does it change your perception of the war? Because war used to be very powerful in the international disputes. As a last resort, when people can't agree through diplomatic means, they go to war. In the past centuries, war was so powerful, when people won the war, war settled everything. Do you think these three wars, what kind of problem did you settle?

*Amb. Richard Burt:* The \$64,000 dollar question.

Colonel Yarynich.

*Col. (Ret.) Valery Yarynich:*

Thank you so much, Mr. General, for this presentation, and for a good visit in Omaha and kind calculation. I have a question concerning two things, de-alerting nuclear forces and Ballistic Missile Defense. In 2010, the Pentagon declared that de-alerting is impossible, but no figures were given for justification. And at the same time, President Medvedev recently said that Russia will be forced to withdraw START treaty if America will continue to develop ballistic missiles. As well, no figures were given.

What do you think about both the necessity and possibility of contact between Russian and American experts? Maybe in the beginning on an independent level, non-official level, to discuss methods, approaches and models that can be used for open public justification of these steps. We cannot understand now why America does not want to de-alert nuclear forces. And America cannot understand why Russia will withdraw START treaty in an absolutely unknown moment. We would like to have open, clear justification of these possible steps. Thank you so much.

*Amb. Richard Burt:* Bruce you've got the last question.

*Dr. Bruce Blair:* Thank you. The near term priority of Global Zero is to put all types of nuclear weapons into a basket, all categories, and to negotiate deep cuts bilaterally between the United States and Russia down to say a thousand total weapons on each side in the next round the follow on round of negotiations, while transitioning to near-term multilateral discussions that bring all the nuclear weapons countries – maybe not North Korea – to the

table to begin negotiations for proportional reductions in their arsenals as well. Any comment on that goal?

*Gen. Cartwright:*

Starting with what have we learned? My sense – and I speak only for myself here – is that we as the United States saw a threat. Whether that threat was real or not is certainly something that everybody can argue about. And that we acted against that threat. And that in doing so in Afghanistan and Iraq, we had a moral obligation to go fix what we broke once we did that. The question of would that threat re-emerge or not was part of the calculus as to how long we should stay in those countries and help them fix what we broke, so the places that we destroyed because we thought enemy were in them etcetera. But we were there as a force to work between two sides in those countries and get them to be convinced that building their country was better than fighting each other over it. We had no stake in that other than to try to see that in fact that would occur.

We probably made mistakes at times on trying to make those countries look like us. And you're not going to do that. There's no precedent that ever allows that to occur. And so letting them decide what the solution would be was a lesson that we came to slowly.

We would like to see stability in those areas. We would like to see those nations have the opportunity to decide what they want to do on their own and then go forward with a government that they so choose to represent them. That is a tremendously cost-imposing strategy on the United States. It's a very expensive way to do business. It is not the normal national security force that we would probably design absent those two conflicts. So one of my concerns is that we continue to build a force for that kind of a war rather than a force to defend our nation.

So those are things that I took away from those conflicts. Other people have other opinions for sure on this, and since they're not over, the historians will write the truth some day. But I think it's an important question to ask when it's time to recapitalize and rebuild your force. What do you want to rebuild? Do you want more of those kind of conflicts, is that what you envision? Or is it going to be different?

I think Libya is a very different example there. I'm still very concerned about the lessons that we take from Libya as a nation and globally. So that one I'm not sure yet.

On the issue of de-alerting, that's where in my dialogue I was coming from on we're sitting at the point of recapitalizing the force. If what we want is greater decision time and greater opportunity for diplomatic solutions, then having the offensive capability not be hair-trigger, so to speak, but be something that is more thoughtful and you get more decision space by having defensive capabilities and warning capabilities that are more robust and more globally distributed, to me that is the way. Then you

build technically in a missile or a weapon that is not always on alert. That's the design criteria. That's one of the decisions we have to make about the attributes of the systems we're going to build.

From the standpoint of Global Zero, and trying to step through these quickly, there's nothing that I disagree with in that construct other than getting to multilateral as soon as we can, because I think that is very important, to aggregating these things. A nuclear weapon is a nuclear weapon. It will not look tactical when it goes off. It just won't. And a weapon that is in a storage status, when it goes off, does not look like it's in storage. We have to get rid of them all. We have to think about all of them and put them into some context of dialogue that allows us to address the entire enterprise, not just small classes of it.

I mean, it is a way to start, and I don't push back there, just like I talk about warning, build confidence, but at the end of the day the goal has to be zero. Not zero deployed, not zero between Russia and the United States. It has to be zero.

So my closing comments here, most of what we're talking about right now is not technical in nature, it is leadership. And we either have to take this issue on and ensure that the leadership makes the decisions that allow us to put together whether we build warning systems or whatever it is, whatever we decide we want to do, but we need the leadership to make a decision. We need to be able to then follow through on that. And we need to be compelling on a global scale, not just on a regional scale or a national scale.

The world today is a global community. Regions are important. But at the end of the day, whether we make a decision in the Pacific and do something in the Pacific, that decision is going to have an effect globally, it doesn't matter how you look at it. And we have to think more outward than we have probably historically done. Thank you.

*Amb. Richard Burt:* General, I'm struck by the fact that your final comment in talking about the requirement for leadership was precisely the point that George Shultz yesterday ended his comments on. So you're in good company. Not only I think with George Shultz, but your description of nuclear weapons, the different categories, but the need to treat them in a comprehensive fashion beyond just a bilateral context, is entirely consistent with the approach taken by Global Zero. So welcome aboard. We'd like to consider you one of our new members. But many, many thanks for the time and trouble you've taken today, and I know we all benefited from it.

*[End of Audio]*