

**General Paul J. Selva  
Vice Chairman, Joint Chiefs of Staff**

**Defense Writers Group**

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**DWG:** Good morning, ladies and gentlemen. Welcome to Defense Writers Group. This morning we're honored to have General Selva with us as our guest. And I guess this may be the last time we speak to you as working journalists in your current job. You're in your final month or two, right?

I want to thank the Carnegie Corporation of New York for making possible these events.

General, if I may, I'll lob what might be considered a softball, but I'm hoping you'll hit it well anyway. I think it would be interesting, because I know a lot of people have specific questions, and a lot of news going on right now. But let me ask you just to give us sort of top-line, what are a couple of things that you feel that you and General Dunford have been able to achieve in the last few years that you're pleased about, in particular; and what are a couple of things that you're going to have to pass on to the next team that most concern you? And maybe, perhaps, focus on things that maybe aren't getting the attention they deserve and could perhaps get a little more attention.

**General Selva:** Thanks for the question.

I think the thing, if you asked Chairman Dunford the same question he would probably answer it the same way, in terms of the things that we're, I'll use the words most proud of, most confident will continue. That is the methodology that we're using to institutionalize the Chairman as the global integrator for strategy and for force design and composition.

When he and I arrived there were a couple of things that were striking to us. One was that the strategies that had been

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written over several years didn't actually articulate things that were important to the department and therefore didn't actually provide a guide for force design and force commitment.

The second part of that very same equation was the accumulated risk of deploying forces to do counterterrorism all over the world, and to do operations all over the world, weren't actually cataloged and made available to any of our senior decision-makers. That's not a value judgment, it's just an observation of how the system was working. We saw that as a flaw.

So in the first year that he and I were together as the Chairman and the Vice Chairman, we worked really hard with the Joint Staff to articulate what we believed was a requirement to not only have a military strategy that helped us guide force design, but also have a process inside the Joint Staff that did in fact catalog the risk to the strategy itself, and the risk to the readiness of the force to be available to do other tasks as we reached into that well of capabilities to do actual daily operations.

So we came up with a process that has globally integrated campaign plans for each of the major problem sets that we defined in that strategy, and we have legislative language that actually instantiates the Chairman as the global force integrator and gives him the responsibility of cataloging and articulating risk as a senior decision-maker.

So the process of being the Chairman is about providing military advice. There is a new responsibility circa 2017 that says and the Chairman is also responsible and accountable for the global integration of the force. So that process I think he would respond to as something we're both very proud of.

It required us to do more than just take on new responsibilities. We actually had to retool how the Joint Staff works. So the focus on strategic planning, the J5 as the planner versus the J3, the operator as the driver of the Joint Staff, is actually a pretty substantial change.

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The other very substantial change is the reinvigoration of the J7 which is our force design and strategy division. We've collected up all of the bits of the J7 that were spread out between Washington, DC and Suffolk in the Tidewater area, and we've started to blend them together in a different way to get after experimentation and force design. That's the part actually that we have to leave to our successors. The integration of those new capabilities, the new force elements into a joint force that should have a different design than our current joint force is work yet to be done. So we brought in General Donohue and he is heads-down focused on getting the process right inside the J7 to do that force design work which will be informed by what we call globally integrated exercises which is a fairly heavy lift.

We did the first one about four months ago. When we talk about a globally integrated exercise, it's a combatant commander level exercise where the principles actually present as themselves. So in the past I would show up and be the Chairman, the J3 would show up and be the Vice Chairman, somebody else would play the COCOM Commander. We would exercise the elements of command and control but we wouldn't actually exercise the decision processes. In this last globally integrated exercise, all of the combatant commanders participated. The Chairman participated as the Chairman. The SecDef participated as the SecDef. The next design will incorporate other departments. We had State Department representation in this exercise but we didn't have the Secretary or the Deputy Secretary. Our ambition is to actually bring them in as players. They'll play themselves. They'll make decisions that will drive the exercise in a way that we might not anticipate.

In normal military exercises, we call those white cards. Somebody develops a script. We say Tony, this is how this is going to play out and we issue the cards.

That's not the way these exercises are built. So that process of force design will be sensitive to how our decision-makers actually make decisions. So that's work yet to be done. There's a whole list of other things that I will leave on my desk for my

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successor, but that's one that the staff will have to work as a staff.

**DWG:** Let me go to Tony.

**DWG:** A couple of things on Iran, straight up. The waves of war are rippling in the Gulf right now. Can you review the bidding? Late April, things were calm with Iran, relatively speaking. What factors or actions have triggered this threat stream and last week's alleged attack? What happened? What factors came into play?

Secondly, the key question we keep getting is why should we believe this intelligence based on what happened in 202? Can you delineate some of the differences that would enhance, that you think enhances the credibility of the current situation? The current U.S. case.

**General Selva:** I'd make two points. One, there's a fairly extensive interview that was done last night with Ambassador Bolton. I would refer you to that for some of the details. I won't talk about the intelligence. What I will talk about are they aren't alleged attacks, they're actual attacks. So somebody attached devices to four tankers off the coast of Fujairah at the end of May that caused significant damage. It was intended to cause damage and it was fairly sophisticated.

A couple of days ago we saw two vessels underway that were attacked with what would appear to be mines that were attached to the sides of the vessels.

So what I will tell you as a military person, getting alongside a vessel under the cover of darkness to attach a mine underway is not an insignificant effort. So it wasn't done by an untrained, unsophisticated group of people. It was done by a military trained and capable force.

The imagery that we've released of an Iranian patrol boat alongside Kokuka Courageous actually removing from what the

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imagery appears to be a Limpet mine, to leave behind, which is one of that attachment points which was released in imagery last night, is a clear indicator that somebody put a mine on the side of the ship.

So they aren't alleged attacks, they're real attacks. Somebody intended to affect the movement of oil through the Straits of Hormuz.

What I would submit to you, it's based on all of the skepticism about the validity of the actual intelligence and the evidence that's been presented. There have been threat streams coming out of the Middle East for about the last 45 days. The level of classification prevents me from telling you precisely where and precisely who, but they link back to the Iranian regime. The Iranian regime has been under significant pressure, both economically and politically, to come to the table to negotiate a deal on nuclear weapons and maligned activities. That's been the offer that's been out there. They have not come to the table. We haven't either. But the point of fact is they're under significant pressure. The attacks themselves are not alleged, they're real. The only perpetrator in the area that has a motive to perpetrate them is Iran. The evidence points towards Iran. And the fact that they were able to quickly and safely remove a mine from the side of a ship would indicate that it was of their own design, of their own emplacement, and they took it into their custody so that it wouldn't be available as evidence that they perpetrated the attack.

So the tension is real. I'm cautious to say it doesn't represent waves of war. It's tension. It's real tension. Iran is lashing out. They're not lashing out against the United States. They're lashing out against the international community. They haven't touched an American asset in any overt attack that we can link directly to them. They've threatened, but they haven't to this point. They have attacked a Japanese tanker, they have attacked a Norwegian tanker, they attacked the Kingdom of Saudi Arabia, they've attacked a Norwegian tanker off the coast of Fujairah. They're lashing out.

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We have to be cautious that we respond only as appropriate. So what we have done is deployed to the region forces that allow us to beef up the defenses of our own forces. So we're still operating in Iraq, helping the Iraqis continue to put down ISIS and put down what could potentially become an ISIS insurgency. The Iraqis are good partners. They're doing most of the work. We're providing advice and assistance, but we know there are Shia militia groups in Iraq that present a potential threat to our forces. There are similar forces in Syria that present a threat to our forces.

So the forces we have deployed forward are designed to provide a defense for those forces. To provide surveillance and reconnaissance that helps give us indications and warning to allow us to secure those forces. Forces that can provide overhead coverage. Forces that can respond if required to an attack against our forces.

**DWG:** I've got to ask you, though, are they [lashing] out? Because largely U.S. efforts brand the IRGC terrorists and renewing our sanctions against them?

**General Selva:** I'll leave that to your judgment. Again, I'm not going to conclude why they're lashing out. What I have told you is they are under significant pressure. If you look at the interviews the President has given over the last several weeks; the interviews that our UN Ambassador has given over the last several weeks; that Ambassador Bolton himself has given over the last few weeks. The pressure is on. The relief to that pressure is the Iranians come to the table, and they've made that offer several times.

**DWG:** Thank you.

**DWG:** Laura, Foreign Policy.

**DWG:** Thank you.

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**General Selva:** Good morning.

**DWG:** Thanks for doing this. I wanted actually to follow up on [inaudible]'s question about Iran. What are your concerns that there might be some incident that is provoked by an accident or an escalation in the AOR? What are your calculations because of the maximum pressure campaign and because we've deployed all these forces, what are the list of things that could happen by accident that could lead to a war?

**General Selva:** The risks of miscalculation are real. So we've tried to very carefully message to the Iranian regime, to the Iranian regular forces, and to the IRGC Quds Force that engaging our forces, engaging our national interests in the region is a dangerous thing to do. So the extent to which they believe they can get away with engaging our force without us responding puts both parties in a place of severe miscalculation. So they shouldn't engage in that activity. We've been very open and forthright with that message. We have said and continue to say as I just said a moment ago, the forces we've deployed to the region are to bolster the defenses of our forces that are there providing advice and assistance to our partners in the counter-ISIS fight and in the counterterrorism fight. So to engage those forces would be a miscalculation that could lead to a response, or would lead to a response. We don't want them to do that. We want them to be very clear-eyed in whatever it is they are planning so that they know we're also very clear-eyed in the necessity to respond, particularly if they directly engage through a surrogate or with their own forces, our forces in the region.

**DWG:** Is the fact that this does keep happening though, an [indication] that deterrence is not working?

**General Selva:** I think it's evidence that Iranians believe that we won't respond. And that's why we've been very clear in our message, that if they directly engage U.S. forces or they directly engage U.S. interests or citizens in the region that we will respond. Whether they do it directly or through a

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surrogate, that we will respond. I think that message has to be very clear, so they shouldn't miscalculate in that space.

**DWG:** But my only point is it's happening again and again, after we already sent additional forces. Now we're sending more and more forces. So where is [inaudible] that determines [inaudible] actually [inaudible]?

**General Selva:** That will play out over the fulness of time. So it is a fair assessment that our history in the region is, we have threatened to respond and not responded. That would be a miscalculation on the part of the Iranians to believe that that's going to persist.

**DWG:** Is this situation [inaudible] further escalation then if this isn't --

**General Selva:** That depends on the Iranians.

**DWG:** Dimitry?

**DWG:** Thanks for doing this, General. I wanted to shift gears and ask you about U.S.-Russia relations. As you know, Secretary Pompeo recently traveled to Sochi where he held talks with President Putin and Minister Lavrov. When he spoke to the press, and I wanted to just quote and I don't want to get my words [inaudible]. He said we'll have a more extensive set of conversations, both about arms control and opportunities to discuss all roads for strategic security issues between our two countries in the weeks ahead.

So my question is, do you expect a sort of intensification of a mil-to-mil dialogue between U.S. and Russia? I know that there is a ban on cooperation in U.S. legislation, but also there is a dialogue between General Dunford and General Gerasimov and things of that nature. So anything new, has anything changed as a result of Secretary Pompeo's trip to Sochi and the talks there?

**General Selva:** I would refer you back to Secretary Pompeo on



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what he said. In terms of the legal restrictions on the U.S.-Russian mil-to-mil relationship, we are not allowed to, the words I believe are cooperate and coordinate with the Russian military. So we've been very careful in the dialogue between General Dunford and General Gerasimov to use the term very specifically deconfliction. So their dialogue is principally about making sure that our forces that are operating in close proximity in Syria don't accidentally stumble across each other and end up in a situation where we might have Americans and Russians pointing weapons at each other.

So far we've been very successful. It's also allowed us to open up a mil-to-mil channel between the headquarters of the Russian forces in Syria and the headquarters of the American forces in Iraq that have command and control over our forces in Syria in order to deconflict their activities on the ground. Again, it's a very specific mission oriented task.

I wouldn't infer from Secretary Pompeo's opening to Minister Lavrov and President Putin that the mil-to-mil relationship will change instantaneously, but that an open, a potential diplomatic opening between Russia and the United States does have potential implications for the lifting of some of the legislative restrictions on our ability to actually coordinate between one another.

So right now the line between General Gerasimov and General Dunford is specifically a deconfliction conversation to help avoid any potential activity between our forces in Syria.

**DWG:** Michael Gordon, Wall Street Journal.

**DWG:** Sir, an Iran question again. The topic of the day. You mentioned that the U.S. had sent messages to the IRGC to the Iranian regime that an attack on U.S. forces or assets would be a dangerous thing to do. I have two questions on that.

One, how have these messages been sent. Are you talking about through diplomatic channels to the Iraqis, through a Swiss

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channel or public statements? That's my first question.

The second question is, you pointed out that there haven't been any attacks on U.S. forces, they've really been on the international assets so to speak. But traditionally the U.S. defense obligation in the Gulf has been to ensure the free flow of commerce and oil. Not just to protect ourselves.

How is the U.S. going to defend the flow of oil in the Gulf and mitigate the risks of further escalation since the President does not want to get involved in another war in the Middle East?

**General Selva:** To your first question, the answer is all the above. We've made public statements; we've used every available channel --

**DWG:** What channels have you used?

**General Selva:** All of them. All the three that you --

**DWG:** Iraq, --

**General Selva:** Iraq, the Swiss, and public statements. I believe we've used them all.

**DWG:** To deliver that message.

**General Selva:** Hands off. Don't come after our forces.

To your second point, we have maintained across the sea lanes of the world a position of defending freedom of navigation. Specifically in the Straits of Hormuz and the Persian Gulf, we've taken on an international responsibility or an international mission of maintaining freedom of navigation and the movement of oil in and out of the Gulf.

That doesn't mean it's a U.S.-only problem. This is the key to thinking about what the Iranians have done. If we take this on as a U.S.-only responsibility, the nations that benefit from that

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movement of oil through the Straits of Hormuz in the Persian Gulf are bearing little or no responsibility for the actual economic benefit that they gain from the movement of that oil.

The circumstances are very different now than they were in the '80s. If you think back to the reflagging operation and the tanker war as it was nicknamed in the Persian Gulf where we reflagged and escorted and made sure that tankers could flow in and out of the Straits of Hormuz, we got a substantial amount of our oil at that time in our history from the Persian Gulf. We are now in a position where the bulk of that oil goes to five countries in Asia, and none of those countries have actually showed any real predilection to press the Iranians to stop what they're doing.

**DWG:** The five countries in Asia are China --

**General Selva:** You're going to make me do it. I think it's China, Japan, Singapore, Republic of Korea and Indonesia I believe are the top five. Don't quote me on that. That's actually available in an open source. You can Google it and find it.

But those five countries in addition to a variety of others benefits from the movement of oil, and the global economy has benefited, and we have second and third-order benefit from the strength of the global economy, but it is not true today -- what was true in the 1980s is not true today. We are not wholly dependent on the movement of Saudi, Kuwaiti, Qatari and Emirati oil out of the Gulf to sustain our economy. That was true in the '80s.

So the circumstances are different. So the idea that we would project that method of defending the freedom of navigation into 2019 I would argue is probably ill advised.

I'm not suggesting that we won't have a role and we don't have a significant role to play. What I'm suggesting is this is a bigger problem than just the free flow of oil. It's a country

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taking unilateral action against multiple nations, against multiple flags, and putting civilian lives at risk in international waters. We as the international community, shouldn't tolerate that.

**DWG:** One last follow-up. To the extent that there is a military role in defending the flow of oil, and if you don't like [inaudible] reflagging model, what approach will the U.S. take? Is there a military role? Are you saying the U.S. would do something but only in concert, only if it was an international allied effort?

**General Selva:** I think there is a military role in defending freedom of navigation. The question will be to what extent the international community will be behind that role. Again, I'm not suggesting for the moment that we don't have a significant role to play in that space, but it will require international consensus before force is used with one specific caveat. If the Iranians come after U.S. citizens, U.S. assets, or U.S. military, we reserve the right to respond with a military action, and they need to know that. It needs to be very clear.

**DWG:** Jane's Defence.

**DWG:** Hop over to Central America. The administration had announced it's cutting all aid to Central America back in March. Then the State Department announced yesterday FY17 dollars will continue on, but they'll stop all new funding. The Defense Department, though, has said it has temporarily suspended its security cooperation with [inaudible], but then in May had decided to reinstate them. Can you sort of walk us through the decision-making process? How long was it suspended, why did you reinstate it?

**General Selva:** I will admit not being familiar with the depth of the suspension. The reinstatement decision, though, was largely on the ability of the military to influence the security of the nations. If we don't have the mil-to-mil contacts and we don't have recurring and ongoing military missions and activities to

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help train and make more effective the militaries of those countries, it's very hard to regain that. So rather than just summarily cut off that training, we actually went after the things we think are most important. It shouldn't be lost on you that General Goldfein was at the South American, Latin American Air Chiefs Conference I believe in either Guatemala or Honduras yesterday. It also shouldn't be lost on this group that the Comfort is pulling into Miami to embark their medical company, so the civilian doctors and all of the medical supplies that will be used for Comfort's deployment to Central and South America actually embark, I believe, tomorrow. That is a deliberate deployment to try and provide humanitarian relief for some of the countries that are suffering under the migration, principally from Venezuela and out of Venezuela into places like Colombia and into the Southern Latin American countries.

So we're deliberately trying to stay engaged, but we're not, we're basically not showing up with weapons and arms. We're showing up with training and with humanitarian relief, and we're going to continue to do that.

**DWG:** You mentioned the Comfort [inaudible] is down there working with Colombia [inaudible]. And they're helping train those three countries, I believe. How is it [inaudible]? You're working with their militaries, but you're also [inaudible] money away as well. [Inaudible] projects. Not you, but the administration.

**General Selva:** Again, our mil-to-mil, we value the mil-to-mil contact, and so I'm not separating the two. What I suggest is we still have the flexibility to work mil-to-mil. We're going to do that. The extent to which the pressure on those countries actually results in what the administration wants, that's a decision for political leadership and the administration. But the extent to which we can maintain our mil-to-mil relationships, we continue to do training work that's critical to keeping those militaries capable of doing the things we need them to be able to do.

**DWG:** Otto?

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**DWG:** General, you have been a supporter of the low yield nuclear warhead for the Trident missiles. As someone who was once in the business of deploying those kind of weapons, the question is what's low yield, and what's the difference?

But the main concern is, if any Trident missile comes up out of the water, heading anywhere towards Russia, how are they supposed to know that that's "low yield" versus a full strategic weapon and they only have minutes to respond. Doesn't that lend to the criticism that some of the arms control folks have that that's an escalating step to put that so-called low yield weapon on the Ohio's?

**General Selva:** I think the way the question is formulated, this is not a criticism of you, but it's a criticism of the community that keeps raising the question that way. It's unsophisticated and ill informed. So that will get me in trouble with somebody for having said that. But in point of fact what we have tried to do with the introduction of low yield nuclear weapons is fill a hole that exists in the potential escalation ladder that we know is part of Russian doctrine.

So I could ask the same question only in reverse. How are we supposed to know that a cruise missile that's launched off of a Russian vessel at the United States is a high yield or a low yield weapon? The answer is we won't know until it detonates. And the answer to your question is, the Russians won't know until that Trident detonates, either.

But in point of fact what happens today is, if the Russians were to attack, and this is all deterrence theory, right? This is not about how are we going to throw punches. But in deterrence theory, if the Russians were to attack, I'll just pick Norfolk, with a low yield nuclear weapon that causes minimal damage and some loss of life but not significant loss of life, they have crossed the nuclear threshold. They have attacked the United States with a nuclear weapon. Our doctrine says we will respond in kind. Without a low yield nuclear weapon in our inventory,

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responding in kind means we have to respond with a high yield nuclear weapon, which many would argue is disproportional to the attack the Russians perpetrated on the United States.

So our argument in the Nuclear Posture Review is a small number of low yield nuclear weapons in our inventory provides the STRATCOM Commander with the option to present the Secretary of Defense and the President with an in-kind low yield nuclear response to a small-scale attack by a nuclear adversary. The absence of that capability means we would have, in order to deter that adversary from continued attacks, we would have no option but to threaten and/or execute an attack with a strategic nuclear weapon of higher yield.

And that puts us in a place of disadvantage for two reasons. One, we don't have an option that matches their option. And two, we don't have a weapon that we can negotiate away to try and negotiate away their low yield nuclear weapons.

So my view is low yield nuclear weapons in this context are stabilizing. As long as they're used in the context I described. The fact that one side has low yield nuclear weapons and the other side doesn't is inherently destabilizing because the Russian theory of escalation to deescalate, which is published Russian doctrine, includes the use of low yield nuclear weapons to compel an adversary not to continue to fight, and we don't believe that's the position we want to be in.

So for all of those reasons, I've been an advocate of developing and deploying a low yield nuclear weapon, and the most expedient method of doing that is a modification of the warheads on the Trident missile.

**DWG:** We have air-dropped nuclear weapons of various yields. Some of them can be dialed down. Why not substitute those for the, put them on the Trident?

The other argument is that you're diminishing the strategic capability of the Trident Ohio Class boats by putting that low

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yield rather than a strategic weapon on.

**General Selva:** Again that would be, I'm going to use the same words again. Unsophisticated an uninformed argument because the low yield nuclear weapons are actually useful against targets that you would strike with a high yield nuclear weapon. So you get two benefits for the price of one by modifying the Trident. One, you introduce the weapons into the inventory to provide the president an option to potentially have a negotiating position to rid the world of low yield nuclear weapons. The second is, in whatever lay-down you might use from a Trident boat, in every one of those target lay-downs there are some targets that would currently be struck with a high yield nuclear weapon that are actually prosecutable by a low yield nuclear weapon so you don't lose the strategic utility of the boat. You actually retain it and enhance it by having an option that exists that's in the ladder of escalation somewhere below launching everything on the boat.

**DWG:** -- low yield?

**General Selva:** I don't have the number in my head. I'm sorry. But it's pretty small, by comparison. It's an order of magnitude less.

**DWG:** Isn't it a little disingenuous to say that you need to go to a low yield when you have conventional weapons of the same yield, low yield use? I get what you're saying, the doctrine says that you have to do that, but it just strikes me that if you have conventional options that are [inaudible] delivery methods, why does it have to be a low yield nuke? Especially because that could be creating political problems for your [budget]?

**General Selva:** A, we don't have conventional weapons that have the same --

**DWG:** Or a combination, some combination of conventional weapons achieve similar results.



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**General Selva:** Second is the delivery. So all of the low yield nuclear weapons that would be used in an attack against the United States are delivered by cruise or ballistic missiles.

**DWG:** So you couldn't tack something like that on a cruiser or a destroyer?

**General Selva:** No.

**DWG:** Don't you have Tomahawks already --

**General Selva:** We have no nuclear armed Tomahawks in the inventory.

**DWG:** You're developing hypersonics, right? So --

**General Selva:** Everything you've just described is hypothetical and isn't yet in the inventory. What I described as a potential for an expedient, deployment of a low yield nuclear weapon is a modification to an existing missile in an existing delivery system which is proven, tested, and nuclear certified. We don't have to go through any other process other than to do the modification to the weapon.

So I acknowledge that this has caused us political tension on our budget, and it's an issue we're going to have to work our way through, but I'm not in a position to yield on the efficacy of having it in the inventory for all the reasons I've just said are important. And there are probably 50 hypothetical variations of how one might develop, employ or deliver a weapon. Trust me, we looked at almost all of them. The handful that have been suggested on the margins of conversations are either way out in the future which are not terribly useful for the problem we're trying to solve today, which is we do not have an option to offer that fills this space.

Second, they're going to cause the same political firestorm ten years from now that they're causing now, so why not just saddle up and go for it? So that's what we decided to do as a

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department. The Nuclear Posture Review directed us to come up with an option. We have conceived of an option and looked at a way to make it useful and deployable. Now it's just a question of whether or not we as a nation make the political decision to cross that threshold.

I acknowledge all the other things you've said. They're all possible in the future. They're not here today.

**DWG:** Nick Shiffron.

**DWG:** Thank you very much for doing this.

I want to start where Michael ended. If you see the situation in the Gulf in terms of oil differently in the '80s, what is the solution? Or what are some of the options on how to protect the movement of oil? Have you discussed naval escorts? Have you discussed with China, Indonesia, Japan, Singapore and the Republic of Korea, to name the five that you mentioned, some kind of grouping of ships or defenses in order to put that --

And just a quick follow-up also on the risk of escalation. Is there a belief that if it was the Iranians who did this last week and last month, that they knew exactly who they were hitting? What I mean by that was, for example, did they know that the ship was owned by a Japanese company? And it seems to me important to know how likely it is that a mistake might be made if they really don't know exactly what [inaudible].

**General Selva:** To your first question, we're still less than a week away from the actual attack, so the extent to which the State Department is reaching out to those countries, we've had the conversation about reaching out. I don't have a status on where that is. So I would yield to the State Department on that.

**DWG:** That effort will be led by State rather than mil-to-mil.

**General Selva:** It would be led by State. Absolutely.

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The second part is, if Iran -- I'm going to assert that Iran conducted -- if you'll stipulate that I'm asserting that Iran conducted the attacks, it is very likely that they knew the provenance of the ships they were attacking. It was by all accounts, as you look at the tactics, techniques and procedures that were used, a relatively sophisticated attack. The extent to which a sophisticated adversary is conducting that attack, they're doing all the preparatory work that's necessary.

So I will assert without prior knowledge that they actually knew what they were up to. That they targeted specific vessels for one of two reasons. They either targeted them because of their nationality; or they targeted them because of their proximity to an area where the Iranians were operating. I don't know which one it was, and I'm not sure the intelligence community will ever be able to tell us which one it was. But they made a tactical and operational level choice. They either had one or the other. They either had knowledge of the nationality and provenance of the ships or they had some knowledge of the proximity to their coastline and to their normal operating lanes. Because they were operating on small boats, so they're not going to go all the way out into the middle of the shipping lanes, but they did get pretty far off-shore.

So I think it's one of those two, and I just don't have the data to stipulate which one it was.

**DWG:** The reason I ask is that, of course, the attack on the Japanese owned ship came as the Japanese Prime Minister was meeting with the Supreme Leader. So a lot of us have been trying to figure out whether the message was yes, we are hitting a Japanese ship knowing we are in order to send a very obvious diplomatic message as well as --

**General Selva:** We're trying to figure out the same thing. So based on the sort of two bookends that I gave you, it's one or the other. If they hit a Japanese ship by pure serendipity, okay, that's just an unfortunate choice. If they targeted the vessel, they were sending a very specific message to the

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Japanese. And I don't know which one it was. So I'm in the same place you are. I don't have data to assert one way or the other way their motive was in picking that particular ship.

**DWG:** Elizabeth, ABC News.

**DWG:** Thank you.

Two very quick questions. The first one is yesterday the President called the attack very minor. I was wondering if you share that assessment. And then also because there is this doubting of the designation that this was the IRGC, can DoD provide more information about where these boats came from to prove that they are IRGC? Why not go a step further and provide that to the public for whatever reason, whether it's [inaudible] right now.

**General Selva:** We're doing everything we can with the intelligence community to declassify the things we can declassify. So that record is out. As much as we have to present, we presented, and the extent to which we can figure out ways to declassify other sources and methods, we're working on that. But there is a body of evidence out there that points towards the Iranians. The fact that there are leave-behinds on the vessels, some of you saw the attachment piece with the tape measure next to it. If that is attributable, it is attributable. If it can be attributed directly to Iran, then it's a pointer towards their complicity in what was done. So we just have to continue to work on that. And I apologize, you asked two questions and I only got one of them.

**DWG:** -- very minor attack [inaudible].

**General Selva:** To the ship's masters, they're major attacks, right? So if somebody puts a hole in your ship that's a big thing. Somebody starts a fire on your ship, that's a big thing. In the scheme of the amount of shipping that moves through, and I don't have that number right off the top of my head, two ships this week and four ships four weeks ago is a relatively small

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interruption in the movement of product through the Straits of Hormuz. So I won't attribute to the President what he meant. What I will say is just in terms of raw numbers, we're still talking a relatively small, very powerful signal but very small impact on the movement of assets through the Straits of Hormuz.

In fact if you look at the UK's maritime reporting system that Lloyd's of London uses for assigning insurance premiums and those sorts of things, the actual movement of vessels in and around and through the Persian Gulf and the Straits of Hormuz has changed very little.

So the maritime industry is still moving oil and petroleum products through the Straits of Hormuz at the same volume they were a couple of days ago.

**DWG:** Paul Shuman, US News.

**DWG:** Sir, one follow-up on this, then I'd like to ask you about [inaudible].

If it is attributable, if these incidents over the last two months are indeed attributable to the IRGC, is there any doubt in your mind that those would have been directed from the highest echelons of power in Tehran? Is there any chance there's opportunism from a lower level commander?

**General Selva:** I have a hard time believing, given the sophistication and the persistence of the activity, that it's an opportunistic activity by a lower level commander. So if you look at the command and control architecture for the IRGC, it's a fairly hierarchical organization. Almost all of the decisions are driven to their senior commanders, specifically Qasem Soleimani. It's hard for me to believe that given the persistence of what's been going on that he's not aware and involved in the decision-making, and that he isn't consulting with senior leaders in Iran. I've not specific evidence that points to that other than the design of the IRGC is that sort of structure.

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**DWG:** What is the U.S. assessment of how long the [GNA] military can hold out against Field Marshal Haftar? Especially given the foreign backing that he seems to be getting from countries like the UAE? And what concerns do you have about the [inaudible] destabilization in Libya [inaudible] rise of ISIS again or groups like ISIS? To destabilize that country or its neighbors.

**General Selva:** That's a great question. I don't have a good sense of how long they can hold out, because to be honest, I'm tracking that on the margins but it's not something I look at every day. I suspect it could go on for weeks or months. Haftar has a, force a symmetry against the GNA forces that would be difficult for them to overcome. He has geographic advantage, he has firepower advantage, so the extent to which there's to'ing and fro'ing there, that process opens the door to some of the radical elements in Central and Southern Libya, specifically ISIS camps in the central region and the Tuareg helping out the ISIS militants and moving people back and forth across the border to the south.

So that's something we have to keep our eye on.

Both the LNA and the GNA were actually keeping a lid on ISIS for their own individual interests for a fair period of time, because they're now going after one another in the capital. It's actually taken their attention off of ISIS and we've seen a small resurgence of those ISIS camps in the Central region. So that one is something we're watching.

**DWG:** And do you have any [inaudible] stabilize [inaudible] further? Or any of the commanders like [inaudible] for example?

**General Selva:** ISIS has had designs on Tunisia both internal and external for some time. The Tunisians are pretty good at their CT effort, so I don't see it destabilizing the entire government in Tunisia. It will be a problem they're going to have to deal with. I do worry about it, though, potentially being a third party in the site in Libya. Not unlike what happened around [Surt]. So you ended up with the LNA and the GNA all of a sudden realizing they had a fairly significant ISIS presence in Libya. They were both more than willing with some help from the United States to turn on that ISIS threat and fight against it together. And as soon as they defeated the ISIS threat in [Surt] they started going after one another again. So finding a solution between the LNA and the GNA is in all of our interests. I'm just

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not entirely convinced there is a solution there.

**DWG:** Justin Doubleday of Inside Defense.

**DWG:** Just to shift gears to Pentagon bureaucracy.

**General Selva:** Is there a bureaucracy in the Pentagon?

**DWG:** Yes. [Laughter].

**General Selva:** I hadn't noticed.

**DWG:** There was a proposal recently to shift the Strategic Capabilities Office under DARPA, and the Joint Staff did not concur with that. I was just wondering why, because [inaudible].

**General Selva:** So non-concur is a strong word and we use it only guardedly.

I was actually made aware of that non-concur after it happened so it wasn't at my level. That doesn't mean we didn't non-concur, we did. But for a very specific reason. So it was a conditional question to R&E, Research and Engineering, on how they intended to make sure that the connections between the Strategic Capabilities Office and the combatant commanders remained as intact as possible. So it wasn't a hard no. It was a no with a condition, and the condition was help us understand that process. So we're going through that discussion right now about the ability of the combatant commanders to nominate into the Strategic Capabilities Office, specific capabilities, specific technical experiments that they would like to engage in, and preserving a funding stream for those experiments which was the unique thing that SCO did.

Whether or not it resides under DARPA or under R&E as an independent organization is an interesting organizational argument. I don't actually want to engage in that argument. What I want to make sure of is that the relatively modest funding stream that's allowed SCO to do some very, very compelling experiments continues, and that it is the combatant commanders that will have access to that funding stream to solve problems they believe exist as opposed to going off and doing just experiments for experiment's sake. Every one of the things that SCO has done to date solves a specific problem that was identified by a combatant commander. And we want to preserve

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that capability.

**DWG:** And the original proposal was somehow severed or --

**General Selva:** The concern was that it might, depending upon how the organization was embedded inside of DARPA, and we wanted to make sure that that connection wasn't severed. So that's the conversation that's ongoing right now.

**DWG:** JG Press, Niko?

**General Selva:** Thank you, General. I wanted to turn to the F-35. Lessons learned from the [inaudible] crash back in April [inaudible]. The official [inaudible] report was just released and they attribute it to the pilot's spatial disorientation as a cause of the accident, and that there's nothing technically wrong with the aircraft.

My question is, does that finding lead you to believe that training or simulator time for U.S. Air Force pilots should be changed? Or that the advanced [inaudible] should be upgraded or [inaudible] upgraded to provide better information about [inaudible]?

**General Selva:** The thing we won't know from the accident investigation is what the pilot tried to do, if he tried to do anything to recover. If you've never suffered from spatial disorientation, then sort of describing it away as something you can technically fix is, it's just hard to do.

What I would recommend is if you've never experienced a thing called a Bárány chair, go to an Air Force base that has one and sit in it and experience spatial disorientation. I guarantee you that when you experience it, you won't know which way is up. And so if you think about the environmental factors that can add to that. So you will believe your eyes before you believe your body.

If you're flying on a starlit night where the stars reflect over the ocean, your eyes can't tell you which way up is. If you become spatially disoriented which means your inner ear has been defeated, so you've done something, you've turned your head and maneuvered the airplane in a way that causes the fluid in your semicircular canals to flow in a way it doesn't normally flow, then all of your sensory processes in your body can't tell you



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which way is up. And it doesn't matter how hard you try, you won't be able to do it.

So my personal experience with this is around the Aurora Borealis. So this is non-maneuvering airplane with the autopilot on, flying straight and level. But the Aurora Borealis was vertical to the horizon. It was at night. And after about 30 minutes of flying with that visual perception I felt like we were in a 90-degree turn because I was believing my eyes. And I could look at the instruments all I wanted. The only thing that could solve it was I had to get up, go to the back of the airplane, get a cup of coffee and look down into the cup of coffee and see that it was not at 90 degrees. A single seat fighter pilot with multiple inputs doesn't have that and if the individual got himself in a position of true spatial disorientation, he truly would not have known up from down, right from left. It just would have been physically impossible for him to discern that.

To the balance of your question, now that I've given you all sort of the biology of spatial disorientation, training is the only solution. The only thing you can do to defeat spatial disorientation when you're that disoriented is believe what the airplane is telling you. Assuming it's still in controlled flight, which is an assumption we have to make, you have to believe what the instruments are telling you. And if you can't convince yourself to do that, you won't recover from the spatial disorientation. It's physically impossible.

So spatial disorientation is not uncommon. Crashes as a result of spatial disorientation in military airplanes are relatively rare, but they happen. And when you're in a high performance airplane, you can aggravate that situation even worse.

So we don't know, I don't have the detail and I don't believe the accident report publishes the details, specifically the configuration and the disposition of the airplane, but they did conclude from the fact, the material evidence that they have, that the only explanation for how this could have happened is the pilot got spatially disoriented, and it happens. It's a reality, a risk of what we do. But I don't have a better explanation than that. But if you haven't experienced it, I highly recommend a ride in a Bárány chair. If you're subject to motion sickness I will caveat that recommendation with carry an air sickness bag. It will cause you to get motion sick.

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Basically what they do is they have you lower your head and they spin you like a merry-go-round, and then they ask you to turn your head either right or left while it's still on its little pad, and while the chair is spinning, they say sit up, and they stop the chair. What it causes is all the fluid in your semi-circular canals is now moving in a way that it's not supposed to move. They will ask you two or three questions about up, down, right, left, and I guarantee you, you'll get them wrong. You'll be that disoriented. And that's just in a chair on the ground with 1G gravity. Your body will do some really bizarre things to you, and we put ourselves in that environment all the time.

**DWG:** Sandra Irwin, Space News.

**DWG:** I wanted to ask a question in your role as Chairman of the Requirements Council. As you know, very high-level people engaging, have been very critical of the requirements [inaudible] General Hyten [inaudible]. They went and created a Space Development Agency so that they would not have to [inaudible] the requirements.

So what is your take on that type of action to actually create an agency that would not have to comply with the requirements? Is that potentially creating a problem down the line towards systems that potentially may not have gone through a review that typically they go through?

**General Selva:** So again, to be very careful about the description of what they're trying to do. The Space Development Agency does not go around the requirements process. What the Space Development Agency is attempting to do is use rapid acquisition authority to develop a set of capabilities for which there is already a requirement. So they're not going to have to come through the JROC. We've already said the things they're trying to develop are necessary. What they're trying to come up with is a different way to do those things.

So if you think about the proposition of a proliferated low earth orbiting constellation to provide ubiquitous communication to all of our assets deployed in the field, we don't have a requirement for proliferated low earth orbit in constellation, that's not what the JROC does. What the JROC has said is we must have the capacity for all of our units to communicate at a sufficient amount of band width to receive the information they need to prosecute the mission they've been assigned. That would be a

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JROC requirement. And then we would stipulate band widths, frequencies, wave forms, all those things. But in point of fact, that ubiquitous communications capability doesn't exist in a single system. So the proposition that Dr. Kennedy and his team have come up with is to create a proliferated low earth orbiting constellation that can provide that kind of on-demand band width and accessibility, and at the same time potentially provide other services. Be that surveillance and reconnaissance, precision navigation and timing. The fact of a proliferated constellation actually opens up opportunities.

So my argument back to them, because we go back and forth on this all the time, is you're actually complying with a standing requirement. What we don't have is a process that lets us very quickly experiment and rule out those things that are not useful.

I was party to a conversation not too long ago about proliferated low earth orbiting constellations. Somebody said we don't actually know how to do that. The answer that was given was, actually we used to know how to do this but we abandoned our capacity to do it because we developed a new, more elegant technology that was these huge expensive satellites that could do multiple tasks, that could be put in MEO or GEO, so mid earth or geostationary orbit, to perform tasks that are exorbitantly more complex than what we used to do from LEO which was take pictures. And when we took pictures from LEO, we put hundreds of satellites on orbit. We actually dropped film canisters from them and recovered them with airplanes. 1960s, 1970s.

So how many aerospace and space engineers are still around that remember when we created and built those satellites en masse? The answer is very few. What we've done is we've created this cadre of architectural developers and engineers who are used to building huge sophisticated, complex satellites. But there are new entrants in the market that are actually going the other direction. So companies like say Planet Labs, SpaceX, Google's constellation, those are all proliferated low earth orbiting constellations which means there's going to be an industrial process that will support building economy size satellites, not school bus sized satellites. So I can now go out and buy a Chevy Volt if I want to, and put it on orbit. I don't have to go buy a Peterbilt. That is an entirely different industrial base that's growing up around these new proliferated low earth orbiting constellations. So I'm not entirely worried that they're going to use rapid acquisition authority. What I am laser focused on

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is that they're solving problems that are already in their requirements deck. That they're not actually creating new capabilities that may or may not connect to the force in the field.

So every time I've heard about a proliferated low earth orbiting constellation, I say what wave forms, what band width, what frequencies is that low earth orbiting constellation going to provide me access to? And do I have the apertures on my airplanes, my ships, my trucks, my tanks, my backpack portable radios to access that network?

By the way, if the answer to all of those is no, the proliferating low earth orbiting constellation is interesting but un compelling. I have to have the apertures to connect to it.

So that's the conversation that is ongoing between our requirements --

**DWG:** But if they have those special authorities, is that what it takes? I mean why couldn't other organizations come forward with [inaudible] as well? That's what people are asking.

**General Selva:** I've argued that both ways. I've said we could give a service those authorities. I've argued we could give OSD those authorities. The problem with having that argument is until you get an answer you don't actually get action. What I wanted was action. So I actually yielded and I said I kind of don't care where you put the authority, just make sure somebody has it and that the person or organization that has it is responsible for the outcome. So what we have in the Space Development Agency is a set of technically competent individuals who have the authority to execute and they're responsible for the outcome. Then a service will inherit it. A service is going to operate that constellation, not the state development agency. So they're going to develop the technical capability, the architecture. They're going to hand it over to someone who has acquisition authority at scale. And that service is going to have to deploy those satellites. Whether that's the Air Force or the Space Force, that chapter is yet to be written by the Congress, but in point of fact the SDA is going to develop the capability.

**DWG:** General, I owe it to Will to help you get to your next appointment, so thank you very much for spending time with us,

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and good luck on your future endeavors.

**General Selva:** Thank you.

I'll close by just sharing this with all of you. I actually enjoy doing these kind of events for two reasons. One, it helps me kind of get inside what you're thinking, and hopefully what it does for you is give you at least a lead to where you can go to get additional information or maybe develop a different story.

The second is, I will share with you that I have exactly 42 days left in the U.S. Army. My wife actually counts. She has an app. Every morning when I leave for work she hits the app on her phone and it says you have X number of days left.

So David, I really appreciate the first question you asked, which is what are the things that we put in place that were, I'll use the words proud of, and what are the things that are work yet to be done. I think the big bin of work yet to be done is actually this introduction of the new technologies that are out there. You alluded to it in your question. There is this entire sort of technical change that's going on, I'll use the words right below the water line. So if you think about the change just in space, just that part of the industry.

If you look at multiple constellations being launched by civilians. A company that can build a satellite for a million and a half dollars that can do fairly significant surveillance of the planet's surface; and you link that company with a data analytics process that's a different company, that says I'll buy your data. I'll ingest it into my data analytics and I'll do the work I do. So that's a company called Global Insight. And all they do is collect imagery and analyze it. And they do all sorts of weird analysis like how might you change the purchasing preferences of people, or how might you change your process by understanding the purchasing preferences of people in a car dealership? Well how do you find that out? Well, you just look at all of the parking lots in front of department stores, and if you know the sales that are going on in the department stores and the kinds of things that department stores sell, you can infer from the kinds of vehicles parked in the parking lot what preferences might exist.

So do you use leather interiors, air conditioning, and power windows? Or do you just want a basic pickup truck?

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They did an experiment, and I won't tell you in which city because I told them I wouldn't. But this particular company did an experiment, just with data analytics of looking at images of vehicles in parking lots, and they told the dealership that they could change their profitability by as much as three percent simply by doing data analytics. The dealership said if you can get us three percent, we'll buy into your company. In one quarter they changed their profitability by seven percent because they had developed a particular kind of algorithm that let them do a particular kind of analysis.

So one of my hard questions to the technology world is, as this data becomes more ubiquitous, this is a real big leave behind for like the entire department. As all this data becomes more ubiquitous. We have it and our potential competitors have it. How do we get advantage in that space? How do we understand faster, decide faster and act faster than an adversary who has the same information? That's my entering assumption. Data will democratize this thing we call surveillance and reconnaissance. The intelligence piece of it is where the value is. That's in understanding what's inferred by the data and helping make decisions to act on that information in a timely way.

And we're not the only people trying to do this. So I think that is something out on the horizon that has implications for how we operate in space, how we defend the things that we operate in space, what we believe freedom of navigation looks like in space, to some of the earlier questions, and if it truly democratizes information, what does that mean? If I have an answer to all those questions, we'd be in a different place. But that's inferred by the what do I leave behind and that's why I'm really confident that the Joint Staff's going to attack this set of questions and the agencies inside of DoD will attack those kind of questions. But that's the kind of stuff we've got to get just about right. It doesn't have to be perfect. It has to be just about right to move us into the next generation of how we design the force.

If we don't get that piece right we're going to design the same force over again. It will be a little more efficient, a little more effective, but it won't be the kind of change that we need to stay ahead of our potential competitors or adversaries if they choose to be adversaries. So that's work yet to be done, and that's a big pile of stuff that will be left on my successor's

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desk.

Again, thank you all very, very, much. I really appreciate you all making time to do this.

**DWG:** Thank you.

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