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CNO: Good morning, everybody. Thank you very much, Jim, for that terrific introduction. I just want to tell everybody how pleased I am to be here today.

These introductions are interesting things. After you say CNO, it kind of goes downhill. It’s like okay, whatever.

I just want to talk about what we’ve been thinking about as a Navy. This is a really terrific time to do that because following the release of the National Defense Strategy we as a Navy sat down and hunkered down and took a look at all our strategic and operational guidance to make sure that we were still consistent. Rechecked our assumptions. Were we pointed in the direction of great power competition? So this is terrific. All that work is wrapped up. It informed our budget submission and so I’m happy to talk about it today.

Let’s go to the first slide. We spend a little bit of time on matters just like this. Whether I’m talking to an internal audience of sailors, whether I’m talking to an external audience like you or any kind of a community audience, we center up on some of the principles that were articulated by our Founding Fathers. And I’ll tell you what, if you’re a Navy person you cannot get better than this quote. Right?

First of all, the quote itself is terrific. Then the fact that it was delivered by George Washington, our first President, gives it a sense of gravitas that’s hard to beat. And I’ll tell you, we’re starting a lot of our talks with this type of an approach where we go back to some of those foundational documents that describe what America means to the world. What the United States, what is our value proposition? The pursuit of life, liberty, pursuit of happiness, all of those things.

We’re starting a lot of our talks with quotes from the Constitution, quotes from great leaders like this, excerpts from the Declaration of Independence, and other leaders who have described what America means to the world. It’s not a loop at all, as I hope I’ll demonstrate today. Just as George Washington and this quote, we’re at the foundation of our nation, so too there was the Navy. What the nation stands for is so closely intertwined with what the Navy stands for that
it’s imperative that we understand that connection, the value statement that we share.

If you dwell on this quote a little bit, we spend an awful lot of time talking about what it takes to make the Navy decisive, and that’s what I hope to talk a little bit about here. And if you’re going to talk about decisive in these days, consistent with the National Defense Strategy, you’re talking about great power competition and how are you decisive in the environment, the strategic environment that faces us today. We’ve done some thinking. I thought maybe I’d describe how we are articulating or understanding that environment.

First, you can see this idea of a spectrum of rivalry, spectrum of competition. It goes from the low end on the left side, a day to day type of competition and then it escalates as you move right, up through mobilization, and into a total war concept.

There’s a couple of things that we make sure that we understand and adapt to as we think about this environment.

One, it is a continuous spectrum, and much of our training to date has been a very linear, phased approach to things. Right? Phase zero, phase one, phase two. Those types of approaches seem to be less and less relevant in today’s competition. Today’s rivalry. So it’s much more fluid, much more continuous, much less structured. So there’s that idea of continuity.

There’s also this idea of non-linearity. The point being that particularly as you think about that purple spectrum, information warfare. Hey, last time we were in great power competition we weren’t even talking about cyber war. Right? That term was first coined in science fiction in 1982. It wasn’t part of our consciousness in the Cold War. Now it completely dominates our consciousness. It occupies our mind and it impacts every single thing that we do.

It’s not just cyber, but also space, another domain that really wasn’t a part of the calculus last time we were in a great power competition.

So one can appreciate that not only the competitors in this competition have changed, but the very rules of the competition, the character of this competition has changed. That information dimension has really connected one end to the other. So you can literally be operating at a much higher degree of intensity, further to the right on that spectrum of competition in the
cyber domain. In fact, we are there right now. Where simultaneously you’re operating in another part of that spectrum with other types of forces in different domains. So there’s a non-linear and a simultaneity that we’ve got to appreciate because this is the demand of this form of great power competition.

We’ve articulated that at the lower end of that spectrum as we have come to understand it, it’s primarily a challenge for our imagination. It’s a conceptual challenge. So you see that double-headed area there in the gray. In fact, that’s what we call that part of the spectrum. Gray zone, gray war. The Defense Strategy talks about competition below the level of traditional conflict. So you can see from these names we’re having intellectual imagination challenges describing what this is. We’ve got to get better at this, primarily by thinking more broadly, thinking more out of the box. I don’t think that it’s going to necessarily be a tremendous capability or resource challenge there predominantly.

At the high end of course we’ve got to maintain superiority at the high end of warfare, and this is going to be a capability challenge. This is going to rely on the investments and the material that we bring to the fight.

So this is how we’re depicting the strategic environment in this form of great power competition.

So how are we responding?

Our response really runs along three major themes. The first theme is the idea of ability. From the Navy perspective, the idea of generating forces and moving them to the Gulf and bringing them back, we got very good at that but we lost a lot of agility. And I would say that three forms of agility really are our focus in terms of moving forward.

One is conceptual agility. I talked a little bit about that and we’re getting after that. Some of the concepts of operations like distributed maritime operations, using a distributed Navy that is physically disbursed, that can mass its effect at a point and time of our choosing is a conceptual idea that we’re starting to flesh out now. Mass right now can be thought of as much more vulnerable, much more targetable than a distributed force, and so we’re looking at we’ve got to distribute the force, complicate the enemy’s targeting, but be able to mass effects when we want to.
Related to that is this idea of dynamic force employment. As I said, we got very good at moving force elements from Norfolk and San Diego across the ocean, through everybody else’s theater to get to the Middle East, and then we’d stay there as long as we could, and then we would bring them back. We optimized our program. In fact, if you’re into this business, the Optimized Fleet Response plan optimized against those criteria. How could we spend as much time in the Middle East as possible for the least amount of cost? We got really good at that. We leaned the system out. We optimized against that mission.

Now we’re optimizing it against a different set of criteria. We’re going to be moving these maneuver elements much more flexibly, perhaps unpredictably around the globe. So we’re not going to be back and forth, back and forth, we’re going to move it around. This is this idea of dynamic force employment.

Just as an example, the Harry S. Truman strike group recently got back, in fact I’m going to take their deployment brief next week. We started her out of Norfolk, much like every other strike group. Then went through the Strait of Gibraltar, and rather than going through the Suez and on to the Middle East we stopped in the Eastern Mediterranean. A very sporty part of the world right now. We were able to conduct very meaningful operations in the fight against ISIS from the Eastern Mediterranean. You can do strike operations from that part of the world.

But not only that, but we also exercised with our partners and allies in Europe. Our NATO partners. We did some very high end work with the Italians, the French, the British and other high end partners. We used ranges that we haven’t been able to use for a long time because we were just steaming at speed through the Mediterranean to get to the Middle East. So in the aggregate we were not only able to do good work in the fight against violent extremism, against ISIS, but also we were able to enhance our naval power at the high end by doing those types of exercises and training, and we were able to strengthen our global naval power by doing that with our allies and partners.

So then, let me just tell you the rest of the story. When we were done with that, mid-deployment we brought the strike group back for a mid-deployment port call in Norfolk. We brought her right back to her home port. Got some great maintenance while we were there. Did some training that we can only do in the East Coast of the United States. And when we were done with all
of that we took her back out, sent her back. Just like before, headed to the Strait of Gibraltar, and then we turned everything off, turned left and went north. We took the strike group north of the Arctic Circle for the first time since 1991.

This is getting back, we had to open a lot of old books to be able to remind ourselves how to do operations up there. And while much has changed since 1991, let me assure you that it is still cold as hell north of the Arctic Circle in November. Right? Very cold. In fact, one of the things in one of these books said hey, when you get out to do those, when you head out, don’t forget to bring a bunch of baseball bats because there’s nothing like bashing ice off of struts and masts and bulk heads like a baseball bat. So bring a bunch of Louisville sluggers, and we did.

But I’ll tell you, just getting proficiency at doing flight operations in heavy seas, in cold seas, operating on deck in that type of environment. A different stress, I’ll say, than doing flight operations on a deck that’s 120 degrees in the Middle East. So you’ve got to recapture all these skills in heavy seas.

It wasn’t easy. Even the easy stuff, the basic stuff, like mail. It took fleet commander intervention to get the mail up there, because we had not delivered that type of volume up there in a long time. So the logistic support.

I heard Congressman Wittman talk about the importance of logistics. All of that ground work. We have to optimize against a different set of criteria.

I was privileged to join the strike group for Thanksgiving. If you really wanted to know where Harry S. Truman was going to be in late November, you didn’t have to track Truman, you just had to track 4,000 pounds of turkey that was making its way through the logistics system, and at some point around Thanksgiving those two things were going to meet up.

So as we think about logistics, maybe it’s a little bit too easy to track that turkey than it should be. So we have to figure out how to do that out of sight and out of mind as well.

The third agility that we have to achieve is the idea of technological agility. This goes towards being superior at that high end so that we can deescalate conflict on our terms. That’s the third bullet there.
I’m very happy to address this audience because I think that most of you would agree that this is a strategic Achilles Heel for us right now. We are just not moving capability forward to the hands of our sailors as fast as we need to. And I use a chess analogy to illustrate the importance of material. I dabble in chess is about the best way to describe it. And if I was going to play Garry Kasparov in chess, a quick tournament of a thousand games. It would be quick, and it would be a thousand games Kasparov, zero games Richardson. Okay? And so let’s rerun it. This time I’m going to ask Mr. Kasparov to take the bishops and the knights off the board and we’ll run it again. Guess what? It would still be a thousand games Kasparov, zero games Richardson. But if I asked him to take his rooks off and a bunch of his pawns, and I’d probably have to take that queen out too, eventually Richardson beats Kasparov, right?

I worry sometimes when we say this conflict’s going to go okay because our sailors are better trained than their sailors. That margin is too close for me. But when I’m relying on the quality of our training that’s far too close a margin. Or we say, we’re organically a more innovative people. That may be true. That’s too close a margin for me. Our business is to make sure that our worst pilot can beat their best pilot because we put him or her in an aircraft that is just that vastly superior. We don’t send our teams into a fair fight. We’ve got to get that capability moving faster.

So we’ve done a lot in our budget to try and accelerate these things. We’ve got about more than a billion dollars, $1.3 billion of what we call accelerated acquisition programs. These are programs like a family of high power lasers. We’re going to put a high power laser on a ship this year. This is a laser that is high power enough to do some physical damage to an incoming projectile.

We’re moving fast with unmanned aircraft. Capitalizing on the work that’s been done, we’re going to move the MQ-25 unmanned tanker, integrate it into an air wing as soon as possible. We’re moving with a family of unmanned, underwater vehicles. We’re moving forward with unmanned surface vehicles. So all of these things have to move forward very quickly.

We’re about $600 million in conventional prompt strike. We’ve got about $230 million supporting the Digital Warfare Office which is going to design and build the operational architecture needed to support distributed maritime operations, keeping all
of these platforms connected into the intelligence network so they can share data and do that mass fires effect.

Then we’ve got more than $200 million in live virtual constructive training. So we just did the graduation exercise for the Lincoln strike group. Much of the training environment was increased in complexity. We greatly increased the challenge by using augmented reality at the strike group level. And we can connect that, building bigger and bigger teams in this virtual training environment so that a pilot in San Diego, air traffic controller in Norfolk and a destroyer in Mayport can all virtually come together and do meaningful training.

The next bullet captures this idea that this competition is going to be a long term game. This is not going to be something that counts down in the next five years or so. This competition is going to be decades in the making and we’ve got to think in sustainable terms. If you’re a game theorist, think infinite games, not finite games. Different approach.

We talk a lot about this spectrum of rivalry, great power competition. I’m not in this competition just for the thrill of competing. I’m in this competition to win it. So as we think about sustainable infinite games, how do we get ahead and stay ahead, and how do we know that we’re ahead?

So in terms of sustainable approaches, this goes to readiness and replenishing the current fleet. So we’ve got billions of dollars in aviation and ships. We’re going to do 62 ship availabilities in FY20 and we’ve more than doubled the capital investment in renewing our shipyards. So we’re going to be investing in upgrading our shipyards.

Finally, this idea of owning that high end. It’s very much related to the points that we’ve already talked about. We’ve got to be agile. We’ve got to think sustainably. And those will help us to be superior at that high end so that we can move the competition to the left. Get down to the lower intensity competition. It’s much more sustainable at the left end than it is on the right, but we’ve got to do that de-escalation on our terms and not our competitors’ terms. So this is how we’re approaching it.

Controlling that high end of competition, the budget speaks to that very directly too. Columbia is fully supported, as Congressman Wittman said. This leg of the strategic triad isn’t going anywhere and we need to make sure that we fund this
national capability in some way that doesn’t crush the rest of the Navy shipbuilding account, so we’ve got to be very creative as Congressman Wittman talked about.

We do in terms of that high end fight procure 12 ships as was said on our way to the current requirement of 355. We’re using every trick in the book, if you will, to get to a more powerful Navy as quickly as possible. So that includes building new, it also includes extending the life of our DDGs which really allowed us to move 20 years left in terms of achieving 355 and we’re on that path to get there in about 2035.

The Congressman also mentioned that as we move forward, as we control that high end of conflict, the carrier strike group and the aircraft carrier’s going to be a big part of that, and we’ve committed, contracted to buy two Ford Class carriers. That ship is going to go out and destroy every record for aviation operations at sea that’s ever existed. It’s got three times the electrical power. So as we think about those weapons they’re going to be decisive in the future, electric weapons, high power microwaves, pulse sensors. She’s built for that. She can generate about a third more aircraft, her sortie rate is that much faster. And she does that for about a third less of the manning so you save $4 billion over the life of that ship as we’ve moved into automation.

So aircraft carriers. Survivable, lethal, effective in the future security environment.

I want to come back now if I could to talk about what’s our most important asset in the Navy is people. And knock on plexiglass, we have now achieved our recruiting goals for 145 months continuously. By every measure of human performance -- that could be their academic performance, their entrance exams, their physical fitness standards, they’re much more handsome and charming than they’ve ever been. The Navy is the most talented Navy on record. These sailors, these recruits could literally go anywhere in the world because they’re that good. They could write their check. And yet they come and they raise their right hand and they join the Navy and the Army and other services.

We’ve talked about competition a lot. There’s probably no more competitive space I operate in than the competition for talent like that. The population of our country that is even qualified and propenssed to serve is tiny and everybody’s after that part of the population.
Why do they join? I think it has something to do with this quote from General Washington about this idea of honorable and glorious. Our young people really do want to be part of something that’s bigger than themselves. They want to do something noble. They want their lives to make a difference. So we are working hard in our people programs to make sure that we stay connected with our core values of honor, courage and commitment. That we as a Navy not only fulfill our duties to contribute to the military dimension of national power, but you have to do a quick tour through history to know that the Navy has been front and center in the signing of important treaties have been done on U.S. Navy warships. Important international conferences held on warships. The idea of a ship visiting overseas. The U.S. ambassador will host a reception on the deck of that ship because it’s U.S. sovereign territory. There is this contribution to the diplomatic element of national power that is very important to the Navy.

Finally, when George Washington deployed his Navy after he’d done that whole thing with the British, it deployed to the Strait of Gibraltar and it deployed there to protect our trade against the Barbary Pirates. We are still out there protecting our trade. The South China is a body of water that gets a lot of attention these days. Why are we out there? We’re out there because 90 percent of the world’s trade flows over the sea; about two-thirds of the U.S. economy is directly tied to the sea; and about one-third of the world’s trade flows through the South China Sea. It’s really important that that trade is allowed to flow freely through that body of water. So we’ve been there for 70 years and we’re going to stay there because we’ve got national interests in making sure our trade flows through there, that we have access to those markets, to those economies in that region of the world. Which, by the way, have exploded under the rule set of the last 70 years. No one has benefited more from the rules and norms that govern trade than the Asian economies. So it’s important that we do that.

Our budget this year continues to invest in those people that are willing to go off and do those missions, contributing not only to the military dimension but also the diplomatic dimension and also the economic dimension of national power. It is great to be a sailor. The Navy is growing towards 355 and we are bringing people in, about 40,000 sailors a year, and we’re going to get about 5,000 stronger this year.

We have overhauled the way that we do human resources in the Navy so that we can treat each one of those people like they’re
a member of a 21st century organization, and Congress has been very much a partner in this, in loosening some of the DOPMA regulations.

I’m going to finish with this one last statement which is really the job description of the Chief of Naval Operations. From Thomas Paine. “A Navy when finished is worth more than it cost.” I think that’s my deal with the American people. If I don’t do that, then I get an F. Okay? And I will tell you that since 2017 in particular, starting with the request for additional appropriations, the ’18 budget, the levels there were good, it was months late. ’19, the funding levels were good and delivered on time. I’ll tell you what, these trends have put the Navy on a steady course for making really good speed. Stable and predictable funding allow us to execute the type of strategic planning that I just described. It incentivizes our commercial partners, strengthens our industrial base, safeguards our sailors and preserves our most precious resource in this competition which is time. So it’s spent on maintaining and even extending our competitive advantage.

We talk a lot about partnerships in the Navy. Partnerships with our fellow services. Partnerships with interagency, the larger government. Partnerships with industry. Partnerships with academia and the research environment, the research labs. And certainly partnerships overseas with all of our allies and partners there. But we also treasure our partnership with the Congress. With them, we’ll continue to pursue the agility we need -- conceptual, geographic and technological -- in every way that we can. And we hope that by virtue of this we deliver a Navy that is worth far more than it costs; a Navy that is the safest place for our sailors; the best partner Navy for our allies; and the worst nightmare for our enemies.

Thank you very much, and I look forward to taking your questions.

**Audience:** So in terms of ability and partnerships, I very much look forward to your answer to this question. Admiral Harris, former PACOM Commander, now Ambassador Harris, talks a lot about the logistics in the merchant marine and challenges there. Can you speak to that, sir?

**CNO:** It’s a great question. I was also just up there listening to Congressman Wittman talk about that. We have a stated requirement for a certain amount of sealift. Right now, if you count the square feet that we have right now, we meet that
requirement. But as the Congressman said, it’s an old fleet. Not all of them can get underway every day. It’s aging out and we need to recapitalize that fleet.

As we think about concepts like distributed maritime operations in particular, logistically supporting that distributed fleet. There’s a different challenge than logistically supporting a MSC fleet. We’re doing a lot of requirements definition in terms of how we do both inter-theater lift, but then once it gets there, how do you do intra-theater lift to source and replenish that fleet? Whether it’s refueling, rearming, resupplying, all of those things that need to be done, a lot of thinking going into that. And there’s a number of different approaches.

There’s a report we wrote in terms of how to get after that and it really, there’s three rheostats that you can turn on this. One, you can buy new ships. That would be great, and it would also invigorate our domestic shipbuilding industrial base, which I’m ready to do that with every molecule in my body. It’s of strategic importance. You can try to life extend further the current fleet. I think we’re probably as extended as we can get there. These are some old ships. And then you can buy new ships, and that’s also a very economical and meaningful way to recapitalize that capability.

So it’s going to be a mixture of those three elements, primarily probably buying used and building new, that we’ll use to recapitalize that fleet.

Then there’s a need for moving logistics, as I said, intra-theater. That will be perhaps a new class of ship that we’ll get after that will be able to move things quickly over shorter distances.

**Audience:** You spoke a little bit this morning about polar operations, and we’re seeing for the first time an investment actually by DHS in the Polar Security Cutter. Can you speak a little bit about the U.S. Navy’s interest, support for this program and capabilities that you’d like to see in it?

**CNO:** We’re partnering very closely with the Coast Guard in terms of making sure that our national interests are protected in the Arctic. They’re back into the icebreaker business, and we have a joint program office that is helping to move through that. And as you said, they’ve got their new cutter going on.
We’re starting to get back into the Arctic. I mentioned the strike group operation up there. I’ll let General Neller talk about the operations that the Marines are doing up there. The submarine force has been up there habitually for a while. So we’re starting to move back up into there. We’ve got some exercises and things planned for this year that will again, just get us back up there, get that muscle memory back in terms of what it means to operate in the Arctic.

One of the dimensions -- the maritime is a really dynamic place right now, and a lot of our maps, all the interesting stuff is on land and then there’s this blue stuff that connects land. It’s really active out there. And one of the places that it’s active is due to this climate change challenge, I mean the polar ice cap is as small as it’s ever been in our lifetime. And that means that continental shelves are exposed that weren’t before, and the resources on those shelves. And there are sea lanes that are opening up for more of the year which can knock days and weeks off of a transit, they have strategic significance. So we’re moving back into that space with great interest.

Audience: [Inaudible] North Korea by [inaudible] ship to ship transport in East China Sea and sea in the Korean Peninsula. So can you tell me about how current state of this operation?

CNO: So give you sort of an operational summary?

Audience: What’s going on and its impact to [inaudible].

CNO: That’s a trick question, isn’t it? I generally don’t talk about operations here.

Audience: The Navy budget justifies the retirement of the Truman as to shift funds to other technologies at various levels. But then we’ve also heard that it was to help fund the [two carrier buy]. Can you clarify the justification?

CNO: That’s an interesting question. I would say the high level message of the budget is that it is one, focused on this great power competition. Two, it is very focused on moving into the future with respect to some of these emerging technologies that are going to be decisive. So conventional prompt strike, hypersonics, directed energy, artificial intelligence, autonomy, machine learning, etc. As the two carrier buy signals, the aircraft carrier’s going to be an important part of our future as well. So this is not about the survivability or vulnerability of the aircraft carrier. The Gerald R. Ford Class
carrier is going to be a lot more capable than the Nimitz Class carrier.

As Congressman Wittman stated, the current requirement for aircraft carriers is 12. Also this year, not part of the budget, but we’re continuing to study the security environment. We’re doing a force structure assessment that will update the force structure assessment that resulted in the 355 ship goal. The combatant commanders are doing their analysis of the security environment and updating their global campaign plans. That work will all be done this year. And what this budget also entails is the flexibility to respond to what those studies tell us.

If we continue to see a need for more aircraft carriers, we have the flexibility to revisit that decision on the Truman.

Audience: As a follow-up to that, as you build more capable ships and review the 355 number, could that number come down?

CNO: I don’t know. I’ll tell you, the security environment is only getting more challenging. It’s not getting any easier out there. So rather than ship count, the way I like to think about it is naval power. And that allows us to get past a lot of the accounting games, if you will. What counts as a ship? What doesn’t count as a ship?

What’s more interesting to me is what is the net naval power that the Navy can deliver to meet our responsibilities to the nation? So as we address that, we’ve got a big investment in unmanned surface ships, undersea vessels, aircraft. At what point do they start delivering equivalent naval power to a ship? I don’t know. But we’re measuring naval power as an aggregate thing rather than trying to isolate out any single component.

So listen, ships, numbers of platforms is certainly a contributor to naval power. You’ve got to have that to be there. How that moves as these technologies start to come on the scene is going to be a really interesting question. We have to be very honest with ourselves. And of course as we think about that, even if you isolate that on the number of carriers, the carrier is really just a truck, right? It’s the most survivable airfield in that theater. The other airfields do not move 700 miles a day. So the innovation happens in the air wing, and this is where a lot of those technologies can increase the fighting power of the carrier strike group even more than just increasing the fighting power of that ship.
So as we move forward I think it’s going to be a really interesting part of the equation.

**Audience:** Separate, but maybe a little bit [inaudible]. With regard to the extra $5 billion in the SCN account, and you’ve now got three destroyers and three attack submarines in there. What had to be canceled or deferred to pay for that?

**CNO:** I don’t know. You can take a look for yourself. We put the third submarine there in ’20. That contributes a tremendous amount to naval power. The current requirement for attack submarines is 66 and we’re moving in the wrong direction against that requirement. So that’s one of our most urgent needs. And these destroyers are getting more capable every time we put them out. So those are two worthy investments.

**Audience:** Are there any programs that are less necessary in this environment?

**CNO:** There’s always a prioritization that has to happen, so we try and take a look at what are the requirements, where do we need to bump up against the requirements and fill those needs on a prioritized basis.

**Audience:** Sir, it looks like there’s a lot of interesting doctrinal evolution going on at the same time within the Navy today. Even more so than some of the other services in areas like distributed lethality, sea control, blended kill chains with the other services. What do you see as the current state of play or development of some of those concepts and what should the audience look for in terms of how those things may start impacting Navy priorities?

**CNO:** We’re very closely partnered with the Air Force in terms of the approach to this thing. A fundamental part of us exercising and making those concepts real is this operational architecture that’s going to connect it all together. You can imagine how complicated that is. We’re partnering very closely with the Air Force. Every time I think about this I realize that I’ve got to think a little bit bigger. We start with let’s say a fleet tactical grid. Well, that’s not quite good enough because I’ve got to think at least, at the very least, of making it a naval tactical grid so that we can include our Marine Corps partners.
When I think about the challenge of the fights that we’re going to face, we’re going to be partnered together as a joint force, so now you’ve got to think about a joint tactical grid. And then we’re not going to fight that alone so we’ve got to think about including the allies and partners. So now you start to appreciate the challenges of that architecture.

That is I think almost an initial condition for achieving the full functionality of distributed maritime operations, distributed lethality, integrated fire control, et cetera. Not only within the fleet, but also with those other forces that are going to be making huge contributions in that fight.

**Audience:** Listening to Deputy Secretary McCarthy this morning and hearing about the Air Force Futures Office, I’m wondering if the Navy needs a future command as well.

**CNO:** I think what really matters are outcomes. And so as I think about accelerated acquisition programs, and just getting capability to the fleet faster, let’s focus on outcomes there. Then if we need to change our organization to achieve that outcome we’ll do that. But we’ve got this accelerated acquisition approach to doing business and it’s delivering some capabilities. So I pointed out the unmanned aircraft as one. That’s something that was finally conceived and defined in ’18. That’s going to be on deck in 2024. That’s six years to get an aircraft on deck, integrated -- unmanned aircraft, integrated with a manned air wing. That’s a lot better than we’ve done in a long time.

The frigate is another, even at the ship level. And the key to doing this is bringing industry in very, very early into the conversation. Even at the requirements definition discussions. Because industry has better understanding on some cases of what’s currently available in terms of the art of the possible. Right? So it would be great if I had time travel. That would be a capability that would be definitive, but we can’t do that right now. So what can we do? It’s 100 percent better than what we’re doing right now, and it’s sufficiently mature that I can define cost and schedule with confidence. I’ll do that next, and then I’ll build in rapid modernization into the DNA of that ship.

So as I think about the hull of that ship, that’s going to be around for a long time. The power plant of that ship, that’s going to be around for the life of the ship most likely. Very
difficult to change those things out after you build it so you’ve got to really invest a lot of thinking in that.

The rest of it, the sensors, the weapons, the combat systems, the computers. We want to make those so that on a two-week availability in port we can swap those out and ride that technology curve with as much agility as possible.

So this is a meaningful partnership. We’re having conversations that are making everybody a little bit nervous because it’s not a traditional process of hey, we’re going to sit down and we’re going to give a giant list of requirements out. It’s like hey come on, this is what we want to do with this. What do you think we can do? Where should we strike the requirements for now? And then build in the fact that we’re going to go forward on a very short iteration step for the next modernization stroke.

**Audience:** You spoke at the annual conference of Women in Defense last year. You were very gracious in the handling of what was potentially a little bit awkward question having to do with equipment requirements for your female fighter pilots for their mission comfort and mission effectiveness. So a bit of a two-parter.

Number one, of course, I would certainly love to hear that that has been successfully addressed. But number two, the deeper issue which is in your perhaps look, deep dive on that lessons learned, requirements definition process, what did you discover? What fixes are you potentially able to put in place with something that prevented that requirement from having been recognized much less implemented over the course of a couple of decades of women being in that position?

**CNO:** Let me back up a bit if I could on your question and talk about what I think is going to be the competitive advantage as we move into this new competitive era.

I’ll point to myself first. One of the things that helped get me to where I am right now, particularly early in my career, was I had good technical training. I could work through technical problems, equations, that sort of thing with some ability. Right? That whole landscape is going to be going to machines. It’s not going to become a skill that is going to be as definitive in our individual people, our sailors. And that’s going to be a pretty level playing field. Everybody’s going to have pretty capable computers that are doing ever more capable
algorithms. The technical part of our business, the computational part, the database part, the data part is going to be a much more level playing field than ever before.

So where do we get our competitive advantage? Well, we get it from teams, human and machine teams, and the human contribution to that will be creativity. It will be innovation. It will be those teams that are able to out-think. We go back to first principles and employ those machines, ask them the right questions, exploring the right parts of the problem, with more agility than our competitors.

One other area that has made tremendous leaps since the last time we were in great power competition is the area of cognitive science. So we’re partnering very closely with world class decision scientists to get after how do you make better decisions? The science shows that diverse teams make better, more effective decisions than homogenous teams.

So it goes back to the fundamental competitive stance of the Navy that we embrace this idea of diversity. This is not just a human relations thing, although there’s plenty there. This is a warfighting competitiveness imperative.

So when we talk about that we put it in the warfighting operations part of our business.

So we’ve got to start there as we start to think about designing systems for all of these diverse parts of our Navy including the fact that women are going to be operating and flying and sailing in our systems, and we’ve got to make sure that we design that in from the very beginning.

**Audience:** This most recent budget has the most RDT&E in quite a while. I think you’ve made a really good case as to why you need emerging technology development funds. When it comes to the actual S&T, the applied research, that has gone down for you. It’s pretty flat throughout the whole DoD. I think that’s where emerging technology comes from right?

**CNO:** Yeah.

**Audience:** A budget that has so much emphasis on RDT&E why is that still not going up at all?

**CNO:** The way I think about it is, what are we doing with that money? We’re doing some pretty exciting things in terms of
getting after exactly those technologies that I would consider appropriate for those potentially disruptive types of technologies going forward.

I don’t look so much at the exact number as I look at hey, what are we getting after, and is it focused on our priorities? Is it mindful and sensitive to all of those emerging technologies? Quantum computing, swarming, all of those sorts of things that we’re asking our Office of Naval Research to look at.

**Audience:** It looks to me like, and I’m lecturing the guy who put this budget together, I’m sorry. It looks like to me like you traded some aircraft, you bulked up on ships, weapons, RDT&E. If you had a message for Congress, if they add like one or two dollars more, [inaudible], where do you need that extra money?

**CNO:** Let me put together our unfunded priority list and I’ll get back to you. All right? [Laughter].

**Audience:** Just trying to be as polite as I could.

**CNO:** No spoiler alerts on that, sorry.

Thank you all very much.

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