

060817 Air Force Association, National Defense Industrial Association, and Reserve Officers Association Capitol Hill Forum with Richard Fischer, Senior Fellow at the International Assessment of Strategy Center; Gordon Chang, Contributing Editor at Forbes Magazine; and Henry Sokolski, Executive Director of the Nonproliferation Policy Center, on “New Revelations on China’s Nuclear Policy and Missile Defense Strategy.” (For additional information on NDIA/AFA/ROA seminars contact Peter Huessy at phuessy@afa.org).

MR. PETER HUESSY: Good morning, everybody. My name is Peter Huessy. On behalf of the Mitchell Institute of the Air Force Association, I want to thank you for being here for the fourth breakfast this week. We have one more tomorrow with our Space wing commanders from Los Angeles. They will be here tomorrow upstairs speaking about how they’re protecting our satellites in a very much contested and crowded space.

We also next week have John Harvey, who is speaking on the 13th, and Ambassador Lehman on the 15th. General Hyten is speaking on the 20th and he’s combining his space, nuclear and missile defense remarks together. We have room there. We have about 150 people that are showing up, but we can expand the space if we need to, so let us know if you’d like to attend.

We also have our second annual Space Budget session with the Secretary of the Air Force. Heather Wilson will be speaking at 8:30 a.m. on the 16th. We’ll also have Congressman Bridenstine and Congressman Lamborn and Congressman Bidel. We also have Todd Harrison from CSIS. The senior GAO analyst on space will also be speaking. We’re trying to get General Thompson to finish out the session on the 16th. We’re going to start with breakfast with Heather Wilson at 8:30 a.m. and go through lunch. That’s our current schedule.

I also want to thank my friend Bill Austin (ph) for his support and who is here today. He teaches at the Naval Academy, a place where I teach and which is -- for those of you who have never been -- have to go. It is a gorgeous campus. When you lecture on nuclear deterrence and talk about President Reagan, you have to understand that everybody in your student body was born 20 years after Ronald Reagan was president. But it is wonderful.

Also, we have three wonderful speakers here today. This is my alternative China intelligence brief to the community of professionals. We have Gordon Chang, who you know is a columnist with the Daily Beast. He’s the author of a book called “Nuclear Showdown: North Korea Takes on the World.” He frequently appears on television and also writes occasionally for Forbes on particularly issues having to do with China’s connection to the North Korean nuclear program and missile program.

Henry Sokolski, as you know, is President of the Nonproliferation Policy Education Center and does a lot of events here at Capitol Hill Club. He has a book on your table called "Underestimated: Our Not So Peaceful Nuclear Future." There are two op-editorials that are included. I would urge you, when you do leave, there are applications for public policy fellowships that Henry has put out on the table out front for this fall, which I'd like you to pick up on your way out.

Our first speaker is going to be Rick Fischer, who is a Senior Fellow at the International Assessment and Strategy Center. Just parenthetically, I wanted to let you know that when I went over to see Phil Karber about a year and a half ago, we were looking at the areas in which the Chinese have these tunnels with the missiles.

The launch facilities right outside the tunnels, Mr. Karber said, do you notice that they are not flat? They are slightly tilted. He showed me a globe and said if I take a string from those launch pads and take the range of the DF-41, it just coincidentally hits three American military bases: Minot, FE Warren, and Malstrom.

For those who don't know, those are our ICBM bases. But we still have a professional community that by and large believes that the Chinese nuclear strategy is based on city busting and a very limited number of very large number of warheads. In part, Henry will talk about that, as will Rick. But this is kind of an alternative China assessment that I do every year in the hope that some of the information will get out in the world.

I want to thank again our sponsors who are here, as well as our embassy guests from the French embassy and Japan. Thank you for being here. Would you give a warm welcome to our first speaker, Rick Fischer?

(Applause).

MR. RICK FISCHER: Peter, thank you very much for this return engagement and the opportunity to update my briefing from two years ago with some more bad news. I can't think of a better place to speak truth to power than the Eisenhower Room of the Capitol Hill Club.

Speaking of D-Day, the anniversary saw the release of the latest Pentagon annual PLA Military Power report. Just to briefly update you, for those who have not had the time to peruse it, it's essentially a continuation of the previous year's assessment. Each report reviews the events and possible developments of the previous year. This year's report, of course, covers 2016.

It is a consensus intelligence community document that has, in my view, always tried to balance the need to say something to the Congress that they can use, with the competing need to conceal sources and methods. So those of us on the outside love to throw brickbats at this report, but it also remains the touchstone. This is really the only

credible document that defines China's People's Liberation Army. For that reason alone, they've been trying to shut it down, almost since the beginning.

Just some of the highlights: the number of missiles do not appear to have changed, except in one category, and that is a new category listed this year, the land-attack cruise missile. My view is that this represents a number of the air-launched land-attack cruise missiles that China now fields. It is roughly equal to the number of ground-launched cruise missiles that China began deploying about five or six years ago.

There is a note about the continued development of their new large MIRV'ed ICBM, the DF-41, but the report does not say that it is yet deployed. It does say, however, that a new IRBM that we saw for the first time in a 2015 parade, is indeed deployed, a 4,000 kilometer range missile called the DF-26 which could very conveniently target our soon to be very, very important base on Guam. The report also notes for the first time that China's new missile interceptor, the HQ-19 is intended to intercept ballistic missiles with a range of about 3,000 kilometers. It's the first time that they mention that. Also for the first time the report mentioned that China's ballistic missile defense program goes back decades, which for those of us who mark this history, is a huge public admission through this report.

Moving into the grey area, the grey data, the kind of data that analysts like myself collect and try to derive conclusions. The Chinese government doesn't make this very easy. They don't issue reports. There are no budget documents. We're basically reduced to gathering the odd picture, talking to the Chinese at arms exhibitions like I do quite often, and reading their literature and trying to parse what it means.

In March, a very interesting image appeared on several Chinese websites that for the first time gives us an indication of China's new small warheads. They've been testing multiple warhead missiles. It's actually been a matter of debate -- as Henry will go into some detail I'm sure -- a matter of debate within the analyst community as to whether China could even make small warheads, much less make a lot of them.

Well, here we have a Chinese document that details for the DF-41 a PowerPoint slide given at briefing in Liaoning Province that says the DF-41 can carry a 5.5 megaton single warhead, up to six 650 kiloton warheads, or 10 150 kiloton warheads. They even gave us the weight of the warheads. It's a source. I can't confirm it, but there it is.

The missiles are coming along. The first MIRV'ed missile, the late versions of the DF-5, which entered service in the early 1980s, but because the DF-5 gave birth to the Long March II space launch vehicle, the Chinese have had an enormous production line on which to either make a lot of DF-5s that we don't know about -- which is interesting because we do have some indication that they employ horizontal storage in caves for these missiles.

But there now appears to be three versions of this ICBM in service. An upgraded

DF-5A with three warheads, most likely. The DF-5B that we first saw in 2015 with three warheads. And now, as Bill Gertz informed us in January, tests of a DF-5 Charlie with 10 warheads. The usual number that has been offered for years and years about the number of DF-5s and DF-5As has been about 20. But I'm not sure we know how many they actually have.

And, of course, what's coming along is the DF-41. This is a road-mobile solid fueled missile system, a lot like the larger Russian mobile ICBM. It will have a rail version as well, 10 warheads maximum. We've seen pictures of the DF-41 on Chinese web sites since 2007. There are rumors that it's just beginning to enter service in its first unit, but no public U.S. source has yet confirmed that.

SSBNs, in the last year we have learned about a new version of the Taepo 09-4. We call it the Taepo 09-4A. Externally we can see that it has some hydrodynamic differences that reduce noise. But still, 12 JL-2 missiles. The JL-2 may be moving into a new version, which Chinese sources call JL-2C, and may carry three warheads. But the Pentagon report also tells us that the third generation SSBN could begin construction as early as the early 2020s. We don't know how many missiles it will carry, but it will carry a new SLBM called the JL-3.

This is a terrible slide, small numbers I tried to pack in far too much data. If you're curious, I hope you take the time to look at the report Henry posted, later today. But this is my sort of semi-annual attempt to try to scope out the range of possibilities for Chinese missiles. It's all speculation, but it's also good fun.

What I try to do is look at the range of possibilities from assuming a small number of missiles in a unit. Except for the DF-5s and the JL-2, this assumes a six missile unit and a single warhead. Then I move to a high number of missiles.

There are some sources that assert, for the mobile ICBMs at least, China employs a policy of having one reload. So there might be six missiles in a unit, but also another missile that will be re-loaded onto the TEK for a second shot. This is controversial, but it's out there.

And then you can estimate or gather sources on a low number of warheads or a high number of warheads. So if we assume low number of missiles, the number that I come up with today is pretty close to what the Pentagon tells us, about 100 ICBMs. If we assume a high number of missiles with re-loads and high warheads, we're getting very close to 1,000 warheads. That would be today, 1,000 warheads. Given the arms control trends in this town, especially of the previous administration and what the Russians are doing, this simply scares the you know what out of me, at least.

Moving along, it's not so bad that we may not really know what the Chinese have or how much they have, they're moving towards a missile surge, in my opinion. What they've done in the last three years or so is develop new classes of space launch vehicles,

small liquid and solid fueled space launch vehicles. They've gone from producing ICBM-sized mobile solid rockets in one company, China Aerospace Science and Technology Corporation, now to two companies, to include the China Aerospace Science and Industry Corporation, CASIC.

CASIC in March revealed a large family of solid fueled SLVs. They've been marketing for about two years a DF-41 sized SLV. CASC markets solid mobile SLV based on their DF-21. And then, last year at the International Astronautical Congress, I had a wonderful opportunity to talk with the president of China's new Landspace is a front for CASC. They try to sell themselves as civil, unconnected, free from all the implications, but they're not. They're taking a slightly modified Long March 11 DF-41 and setting up a third production line. Of course, all of this is to engage in commerce and compete with Elon Musk and those guys, but I see alternate ICBM production.

CASIC may have tipped its hand and indicated what the next generation ICBM may look like. CASIC is working on its Kauizhou 21. It has a 4.5 meter diameter solid rocket with a 20 ton payload. If you're going to put the small Chinese warhead on this, you can conceivably carry up to about 100. It could be made mobile. It would be a huge truck, but they could make it. I just offer this for your consideration, something to look for, you heard it here first.

Strategic defense advances. Yes, China had its first ballistic missile defense program in 1963, ordered into creation by Mao himself. They took a break starting in 1980 because they didn't want to spend money on missile defense. But by the 1990s they were back at it again with a vengeance.

China has been testing its HQ-19 for a number of years and is well on its way to developing radar satellite coverage to support the ballistic missile defense mission. But that's not all. China is very quickly, as are we, moving towards what I would call a sixth generation vision of warfare, a vision that weaponizes information in new and devious ways and combines those weapon concepts with new energy weapons.

The Chinese have been investing in laser, railgun, electromagnetic pulse, radiation weapons, for a long time. In 2013 their leading laser weapon institute, the Changchun Institute of Optics and Fine Mechanics, in a public paper that you can download, proposed that they could build a five ton chemical laser combat satellite by 2023. Now if you take that data point and combine it with what the Chinese are doing in heavy space launch vehicles, their Moon Launcher, the Long March 9, scheduled to fly by about 2030, is advertised by the Chinese as having a 140 ton LEO lift capability. Simple math, how many laser combat satellites could you live with that?

So Chinese strategic defense is not just going to comprise of missiles on the ground following radar tracks. It could very quickly include a robust space architecture centered not just on low Earth orbit, but on (deliberate endpoints ?) and control of the Moon, seeking the long-time ambition that was identified by American and Soviet

strategists in the 1950s of controlling the Earth-Moon system. And if I haven't woken you up I apologize, but I'll stop there.

(Applause).

MR. GORDON CHANG: Thank you, Peter. Rick, indeed I have woken up, as I believe we all should. When it comes to China and North Korea there are two questions we need to ask. First, can the Chinese disarm North Korea? Second, are they willing to do so?

The answer to the first is yes, hell yes. The Chinese can take down the Democratic People's Republic of Korea any time they want, at the blink of an eye. The answer to the second question is no, they're not willing to do so. They say they are, but they're duplicitous.

But Chinese duplicity is not the real issue. The real issue is that American policymakers have been unwilling to use all the elements of American power to protect the American people. On the first question, Chinese diplomats work over-time to tell us that they have, quote-unquote "no leverage" as one of them did just a few weeks ago. But that's just an excuse for not doing anything.

If you had to be limited to just one word to describe China's leverage over the North Koreans, it would be overwhelming. China accounts for more than 90 percent of North Korea's external trade. China supplies more than 90 percent of North Korea's crude oil, and more important, much of it on concessionary terms.

China is also responsible for providing something like one-third to 45 percent of all of North Korea's food stuffs. There are some years when China provides 100 percent of North Korea's aviation fuel. We all know that Beijing is Pyongyang's primary backer in international councils. As they say, without China North Korea could neither bark nor bite.

Without China there is indeed no North Korea. China provides many things to the North Korean regime, but the most important one is confidence, confidence in the minds of senior regime elements that they are safe; safe from the United States, safe from South Korea, safe from the international community. China may not be able to convince Kim Jong-un to change his mind, maybe nobody can. But China can convince senior regime elements around Kim Jong-un that it is no longer in their interest to support North Korea's weapons programs; and China can convince them that it may be no longer in their interest to support the increasingly unpopular Kim Jong-un.

That brings us to the second question. Will China use its considerable influence to disarm the North Koreans? There is one indication, an important indication that they are not.

It is true that on February 18th the Chinese said that in order to comply with UN Security Council resolutions, that they were no longer going to buy North Korean coal for the rest of the year. But unfortunately, the Chinese have brought coal since then. They brought coal in February after the announcement, in March and in April. And it's almost certain that they brought coal in May.

In May satellite imagery showed North Korean ships in Chinese ports. The Chinese Foreign Ministry said, yes, we allowed them to unload but it was for quote-unquote "humanitarian reasons," and we didn't quote-unquote "import the coal." Seriously? This June, this month, there have been five North Korean linked ships unloading coal in Shanghai and in Northeastern Chinese ports. And if this weren't bad enough, the Chinese have continued to buy minerals from North Korea in violation of the last two Security Council sanctions.

Last spring David Albright of the Institute for Science and International Security said cylinders of uranium hexafluoride, vacuum pumps and valves, have crossed the Chinese border into North Korea. That is also another indication of Chinese intentions.

China has been helping the North Koreans with ballistic missiles. On April 15th Pyongyang paraded through Kim Il-sung Square a very large canister, big enough to hold a three-stage missile. The canister sat on a mobile launcher. The 16-wheeled mobile launcher is Chinese.

As Rick Fischer has pointed out, it was manufactured by Song Dong Space Special Vehicle Company (ph). That is a unit of China Aerospace Science and Industry Corp, CASIC as Rick just talked about. And CASIC, of course, is closely allied with the People's Liberation Army.

That canister also looks to be Chinese in origin. The canister is the same one, at least in appearance, as the Chinese use for either their DF-31 missile or more probably their DF-41. The DF-31 has a range of at least 5,000 miles. If fired from a North Korean site it could reach the West Coast of the United States. The DF-41 has a range of at least 8,700 miles.

Now this is not to say that conclusively the Chinese gave the North Koreans those missiles, either the DF-31 or the DF-41. After all, the North Koreans could have paraded an empty canister. Or, maybe North Koreans stole the missile from the Chinese. But nonetheless, that ugly big canister through the center of the North Korean capital should prompt us to ask Beijing some pointed questions.

Also, the international community needs -- and we're talking about Chinese intentions -- the international community needs to ask China where North Korea got the missile that it launched successfully on May 21. That May 21 missile looks to be the same as the one they fired off successfully on February 12th. The February 12 missile in turn looks to be a variant of the ones that the Chinese tested on August 24th. And that

August 24th missile, that appears to be a Chinese JL-1. So are you noticing a pattern. These Chinese missiles are mysteriously showing up in North Korea's inventory.

Moreover, a company associated with the People's Liberation Army supplied the chassis for the transporter erector launcher that carried the KN-08 missile that we saw for the first time in 2012, on April 15th. Again, it was a big military parade. At the time, Chinese officials privately told their American counterparts that the North Koreans told them that yeah they wanted the chassis for a logging vehicle. Well, the problem is that these chassis that China supplies are actually wider than the roads leading to North Korea's logging areas. But American officials nonetheless accepted that explanation.

My sense -- I can't prove it of course -- but my sense is that China not only supplied the chassis but also the rest of the TEL, in other words, the missile interface. Supplying the vehicle is critical because it makes the KN-08 potentially North Korea's first usable missile that can reach the lower 48 states.

North Korea's longest range missile is the Taepodong II, but we don't worry about that as a useable weapon. It takes weeks to assemble, to test, to fuel, all the rest of it. We can kill it on the pad.

A KN-08, thanks to our Chinese friends, is mobile. Because it's mobile, it can hide. Because it can hide, we cannot with any assurance kill it before it is launched. So all of this shows, in terms of Chinese intentions, China is drenched in duplicity. It's not helping. In fact, it's arming the North Koreans.

So what should we do about all this. Well, we can inflict pain on the Chinese, so much pain but they'll have no choice but to disarm North Korea. As an initial matter, we need to sanction Chinese enterprises that sell components for North Korea's weapons program.

It's just simply unacceptable for the Chinese to arm the North Koreans and for us to do nothing. But in fact, we are doing nothing. And, of course, there should be sanctions on Chinese financial institutions that have been involved in North Korea's weapons program.

So here's a suggestion. Any bank that has dealings with a company that has been designated by the U.S. Treasury as a proliferators to North Korea should be unplugged from the global financial system. In other words, it should be denied access to dealing in dollars in New York.

And another suggestion, any bank that knowingly deals with the North Koreans should also be unplugged. We know one of the culprits, it's the Bank of China, one of China's big four banks. The most recent UN report, UN panel of experts report, notes that the Bank of China participated in a conspiracy to launder money for the North Koreans. We have to ask ourselves, why is the Bank of China permitted to do business in

the United States?

Okay, unplugging Chinese financial institutions will rock global markets, but it will tell Beijing that for the first time since 1994 that we are serious about protecting the American homeland. How can we expect the Chinese to take us seriously when we place such a low priority on our own security? We should be telling the Chinese look, you can do business with the North Koreans, you can do business with us, you can't do business with both.

Yet whatever we think that our North Korea policy should be, we should at a minimum be enforcing U.S. law. That means no bank gets to launder money for the North Koreans and still have access to dollars in New York. That means that no bank gets to participate in stealing money and still be able to do that through the U.S. financial system.

Recently the Wall Street Journal reported that \$81 million was stolen by cyber criminals from the account of the Central Bank of Bangladesh at the New York Federal Reserve Bank. Therefore, of course, challenging the whole notion of the stability of the global financial system. U.S. officials believe that the North Koreans were involved. If the North Koreans were involved, they were not doing this on their own.

The Wall Street Journal has reported that federal prosecutors are looking at Chinese middlemen who helped the North Koreans quote-unquote "orchestrate the theft." While the Chinese middlemen were involved, Chinese banks had to be complicit. If Chinese banks were complicit, it means that Beijing was supporting the theft.

China, the central government, controls its state enterprises, both its banks and others, tightly. That means that they know in Beijing about all of the sensitive relationships of these enterprises and banks. If Beijing doesn't know, it's because they don't want to know. China cannot run a police state and then say it doesn't know what's going on, especially when state institutions are involved.

Needless to say, the U.S. should cut complicit financial institutions off from the global system. For decades American administrations have not done that. We have not enforced our money laundering laws and we've not enforced other laws when Chinese banks were involved, apparently for fear of angering Chinese authorities. And, of course, Beijing has taken advantage of that.

Just think, we routinely fine European banks hundreds of millions of dollars for lesser violations, yet we leave the Chinese banks alone. A case in point, on September 26th last year the Obama administration, to its credit, for the first time imposed secondary sanctions on a Chinese entity with regard to North Korea. That was a Chinese company, Song Dong Hong Shan Industrial (ph), its owner and three of its employees.

On the same day the Justice Department confiscated money in 25 bank accounts.

But at the same time, and this is not to the credit of the Obama administration, the Justice Department said in a press release that there were no allegations of wrongdoing against foreign banks that might have maintained these accounts. As the Wall Street Journal pointed out, this was effectively giving a big green light to Beijing to continue bad behavior. It meant that the Chinese banks were quote-unquote “untouchable.”

If we are not going to enforce our own laws, and President Trump has a moral obligation to get behind a microphone and tell the American people, quote, “I am seeking the repeal of federal money laundering and theft statutes because I’m afraid of the Chinese.” For decades Republicans and Democrats, liberals and conservatives, have pursued misguided policies. Because of that, we are in peril. If you want to know how a destitute state like North Korea can develop the world’s most dangerous weapons, you have to look no further than the American leadership. Our leaders have failed us, and that’s why we are in this dangerous position.

But now for the first time, we have an opportunity to re-jigger our relationships with Beijing in a fundamental way. And we have for the first time the possibility of putting North Korea at the top of our national priorities. Both of these are long overdue and they are preconditions to protecting the American people. A few years ago a retired senior PLA officer told a conference in Asia, quote “North Korea is a rapid dog that we have in a large cage.” Now the Chinese are villains for feeding that canine, but it is our fault for letting them do so.

Thank you.

(Applause).

MR. HENRY SOKOLSKI: First of all, I would like to thank Peter for inviting me. This is not the first time that I’ve come here. I am also cognizant of just how remarkable it is that you are all here at 8 a.m. in the morning. I want to thank you.

In addition, I think Peter deserves praise for one of the rarest qualities in Washington. It’s called dwell time. Whatever one can fault Peter for, lack of persistence is not one of them.

He’s been at this now he tell me 35 years.. That’s what’s missing in an awful lot of the things that we do within the Beltway, which is focus and persistence. I think it’s a quality that we should celebrate, and certainly he has no deficiency in this regard and he deserves praise. So my hat is off to you.

Peter is also generous. He gets me access to rooms to hold my events here, which I hold privately, and without his help I couldn’t hold these dinners for Senate and House aides and journalists and such. So thank you.

Having said all these things, what I’m going to share with you today reflects a

four-year project funded with money from a number of different kinds of foundations, left and right. Some of the findings here -- I guess all of the findings -- I've briefed to DOD, the intelligence community, and most recently the NSC. I know it must be right because I gave a brief in June, and even the RAND Corporation footnoted it. How wrong could this be? I have to share it with you.

I'll tell you roughly what I'm going to tell you. First, in trying to understand what countries can do to take care of what is arguably the longest pole in a nuclear strategic capability buildup, that is getting fissile material, separated plutonium and highly enriched uranium. There is a reflexive effort by industry and by diplomats and even ourselves to say well, you know, if we're interested in military nuclear production, we need to focus on the military dedicated efforts. In the past, most nations produced their nuclear weapons material in military dedicated programs

What we did in the past, though, suggests why the future will be more like Iran and India where civil facilities are exploited. There's a simple reason why civil facilities might be exploited for military purposes in the future, it's because they exist, and in the old days, they didn't. So point one is we're going to be looking at today is how the civil nuclear infrastructure in China may afford it opportunities for a military nuclear ramp-up or threat of ramp-up.

I think the second thing I will allow questions on -- I won't dwell on -- is much of this problem set is avoidable. It's something that we can avoid not only by talking to the Chinese, but with other nations in the region. I would recommend that we do that if only to find out how dedicated the Chinese building up nuclear weapons options in their civil nuclear infrastructure.. So with that as an introduction, let's take a look at some of these pictures.

When you talk about who has what, you can see that the United States and Russia, when it comes to weapons that are in storage, deployed, reserve or awaiting dismantlement, the numbers are very different. In total, these categories for the United States and Russia are measured in thousands. In contrast, the dispute about what China have right now is measured in hundreds.

The Russians will come and say we think the Chinese have 900 deployed or maybe another 900 in reserve. If you go and talk to other people they say they only have 190. I'm not sure we know, but the dispute is over hundreds, not thousands.

So that's an important thing. If the Chinese want to ramp up or threaten to ramp up to be peer competitors with The United States and Russia in this arena -- I'm not sure they do -- but if they did, they have their work cut out for them. That's point one.

But what do you need to make an advanced weapon? Well, two of the most interesting things in here, for our purposes today, is highly enriched uranium and plutonium. Now you can make an advanced weapon without plutonium. But if you want

small warheads that are light, you'll want that trigger to be made out of at least a composite of plutonium and uranium, and maybe just plutonium.

For what it's worth, the two stage hydrogen bomb is what you would use, more often than not, for a small warhead. Or, if not, you would use a booster version, and we can get into that in Q&A if you want to know what that's all about.

We've just gotten a very remarkable presentation on how bad things might get if China decides it wants to use heavy payload missiles that it might be able to move around and put multiple warheads on. By the way, does anybody know where their multiple warhead technology came from?

MR. : (Probably us ?).

MR. SOKOLSKI: Thank you. It's very important in this game to understand that we all gave at the office. There's a problem there. In any case, these are Chinese people who I actually respect, who hold only Chinese passports, and therefore they should be respected for speaking out, and understand that they do so carefully to be in compliance with official facts, who are saying that if China gets multiple warheads in large numbers china doesn't have enough fissile material to make them.

Tactical or theater nuclear weapons are another possible demand that the Chinese could have. Do they, in cooperating with the Russians now, buy into the Russian idea that maybe you want to have small warheads for use in theater? If so, they have developed, back many years ago, a neutron bomb that they have as a "technological reserve" on the shelf. If they choose at any time to deploy more of those or any of those, that could drive up demand for more fissile material pretty significantly.

So what would they need if they wanted to even threaten us or others, or give the impression that they could perhaps ramp up at some point, perhaps in the next 10 to 15 years? Well, they have highly enriched uranium, but not an enormous amount. Compared to us and the Russians, it's a pittance. What China has may afford it enough to go to perhaps an additional 1,000 warheads, something like that.

But, and this is where we've kind of averted our gaze and not been thinking clearly, if you take a look they could make if they exploited their so-called civil nuclear sector? They don't call it that; we call it that. But it is an unsafeguarded set of enrichment facilities based on Russian technology.

The amount of material by 2020 -- how many months is that? Less than 36, it's pretty soon. The Chinese say they will have 13.5 million SWUs. That's separation work units.

I won't tell you what that is for two reasons. It's complicated and I'm not sure I know how to explain it. But I know how many SWUs you need to make a kilogram of

highly enriched uranium.

Someone told me. It's not that many. And if you do your division, and I do know how to do division still, you get numbers that are really stunning.

By one estimate by someone who is Chinese, if they build all the reactors that they say they're going to build -- lots of luck -- by 2020, and they fuel them with their own domestic production, which they don't need to do because one-third of their power sector is fueled with imported enriched uranium, so we're making a lot of conservative assumptions, he says they'd be able to make 1,000 to 2,000 bombs worth of highly enriched uranium with the surplus SWUs remaining. That's a lot, and it's all the more a lot when you recognize that even the biggest proponents of nuclear power who are arguing that there are all kinds of reactors that are going to come on line -- again I say lots of luck -- still believe that there's a 50 percent over-supply in the world of enrichment capacity that you can buy, and it's dirt cheap. So why would China ate so much of a surplus of enrichment capacity of its own?

Now, to make you a little bit nervous, even our Japanese friends are doing this, which also makes not a lot of sense. The North Koreans are down there as well. But the point here is we have not thought about the military implications of that overcapacity and what it could do.

This is essentially the point that our Chinese analysts have made publicly. So this is not something that I'm conjuring up, but what they are arguing. They don't say a bomb's worth, but they give the number of SWUs, and SWUs are fungible.

Now we come to plutonium. It's not much, several hundred bomb's worth of surplus but certainly not enough to be able to be threatening to make tens of thousands bombs, which we and the Russians can do. What about China's military dedicated nuclear production capacity? They don't have it. One production reactor is being dismantled, another hasn't operated since the 1990s. If they restarted other one plant, it would be maybe able to make 75 plutonium triggers or bombs a year. The Chinese, however, don't like showing their hand slowly. I think they like not showing their hand and then saying, surprise. They would be a really dumb thing for them to restart this old production reactor even if they could. It would set off a loud strategic alarm and be not that much of a threat. So that's the good news.

However, China does have the means to make plutonium of any grade with these two heavy water reactors. China certainly has a lot of spent fuel and they're getting a lot more from reactors we and others have sent them. Some people say, no one would make material using power reactors. After all almost all of the reactors china has imported are "proliferation resistant" light water reactors.

I always like reminding people, though that these light water reactors are identical to the ones we were going to militarize in the Washington Power Supply System back in

1987 to make weapons plutonium and tritium when Ronald Reagan wanted to spook the Soviets. We didn't do this. It's probably okay that we didn't do this, but we were planning to do this and you can.

Here, courtesy of Livermore National Laboratory, is an estimate of what an 1,100 megawatt plant, which is roughly the same as the ones we're building in China and the ones China has, will make. This gives you some idea if you want weapons-grade or reactor-grade. I think a lot is made of the difference between reactor and weapons-grade plutonium -- That only weapons-grade is usable to make weapons. Forget that. If you have tritium and deuterium and you boost a device that uses reactor through the tunnel you are able to eliminate any of the problems associated with using this material other than heat management the latter problem is relatively easy to manage. You can use any of this material to make perfectly effective weapons that are quite small if you go into boosting.

You have a book now. I wrote it. Inside there are two editorials. I worked with someone and wrote those. They talk about this problem.

So China has the spent fuel, they have the know-how to make more plutonium. But they have to chemically get that plutonium out from the spent fuel on a large scale. They do not have a reprocessing plant this large. The one pilot they have they've run very little material through.

They need help and where do they get it? France. Why? Well the French are flat on their backs financially in the nuclear sector. They're kind of like Westinghouse. Westinghouse was going to sell 40 reactors. That's the reason Congress agreed to the generous nuclear cooperative deal with China -- does reactor exports were going to be American jobs. But now Westinghouse is bankrupt and is getting out of the export business.

Well the French nuclear sector is also roughly bankrupt so they sold a reprocessing plant to China that can make eight tons of plutonium a year, which is roughly 1,000 to 2,000 bombs worth a year. Chinese say they plan to put this fuel eventually and a fast breeder reactor. When? No sooner than 2040, which would mean that they would roughly stockpile 15,000 or more bombs worth of plutonium on their way to this peaceful thing that they say they are going to do.

Another thing that's interesting is why you would have a breeder given the surfeit of uranium that's cheap. It doesn't make any economic sense. You don't need to do this, but they are.

Could that possibly be a way of having a plutonium production ramp up capability for a large number nuclear weapons? I don't know. I have talked with the Chinese in Beijing on five separate occasions, and here's how it works.

The Chinese are complaining about the Japanese plan to open Rokkasho.. Meanwhile, the Chinese are planning to build a plant that is identical to the one that the Japanese want to open next year. If Japan does, Katy bar the door. The Chinese are then going to have the pretext to say you let the Japanese do it, how can you complain about us doing likewise.

They are complaining about the Japanese doing this. They say the Japanese are going to make lots of bombs, maybe. And of course we say no, no, no, they're special, they wouldn't do it.

So the Chinese rejoinder is, we're special too. We already have weapons. Why would we use this to make more weapons?

I say, because you don't really want anyone to believe that you have many weapons, and frankly, you may not have many weapons. But you might want us to believe that you could get many weapons if you wanted to get many weapons. That's why you might want to get this.

The rejoinder was, I wouldn't dwell on that argument. If you want to argue against just getting into reprocessing why don't you just argue about the economics? It wasn't like no, you're wrong. It was an interesting rejoinder.

Why should we care about these things? Am I giving you facts or problems? I think it's still a problem, thankfully. I don't think it's a fact.

Why? Well, the Chinese brought the plant from the French, but they can't find a appropriate construction site for it. The last time they tried to site it about 10,000 Chinese rolled out into the streets and said, not here. Beijing backed down. That was last August.

One of the things about the Chinese government is that it is sensitive to environmental issues, particularly nuclear. My organization held several seminars with Chinese energy advisors and analysts about Chernobyl and how that helped bring down the Soviet Union. They get it. They can't afford to have something really unpopular produce an massive accident of some sort. So they are sensitive to pressure on this.

The other thing that has been announced, though, is the French are eager to get this thing sold, and until the Chinese have a site the French can't get their money. So the French are announcing that a site is about to be announced, not the Chinese, the French are announcing this. I don't know whether our diplomats have talked to the French about this recently or not, but that might be worth doing.

So the French say they're going to build this plant. The Japanese and South Koreans, meanwhile, are saying we worry about the Chinese. They say this privately. I've gone to the Blue House and other places and they tell you that they're worried. But

their nuclear programs are slowing down such that any idea of going the same reprocessing route as the Chinese makes even less economic sense for them.

We have all these policy reviews. I don't know whether The issue of potential civil military nuclear exploitation going to be captured by this. I have tried to lob a brick over the wall saying, head's up, you might want to address this.

We had a program to convert weapons plutonium into civilian fuel. Trump actually agreed with Mr. Obama. Don't tell anybody. He zeroed the program out. Of course the Hill will over-rule him, but eventually they'll give up too.

That suggests one idea. It might be useful to start talking to our allies and the Chinese about this before any reprocessing plant opens up since at this point it would be too late for anyone to back down. All of these activities I've talked to you about lose money. There's no reason to reprocess or expand enrichment capacity unless you want to do something you shouldn't be doing.

We're not doing either of these activities. There's no reason why we can't talk about this. It's a modest proposal. It's kind of like that radical idea of enforcing of your own laws.

When things get desperate I always say you might have to enforce the laws and talk to people. It's not what we're inclined to do, but it might be a start. Now will that solve the problem? No, but it will at least spotlight it if it doesn't. Right now we're asleep at the wheel on this. That's not smart.

One last comment, if you are a Senate or House aide or full-time journalist or from diplomatic staff, I teach a course. It's free. You can apply and if you make the cut, I understand it's pretty good. Applications are on the table.

Thank you.

(Applause).

MR. HUESSY: we've reached 9 o'clock and I'll let you vote. Do you want to spend five minutes asking our esteemed guests some questions?

AUDIENCE: Okay.

MR. HUESSY: Okay, so Rick and Gordon and Henry, if you stand behind the podium, and people just let us know who you are and address your questions to any of the three or all three or whatever you want to do. Just speak into the microphone when you do the answers.

MR. : How many test launches do we see the Chinese doing of various missiles,

and could the North Koreans actually be a surrogate test-bed for the Chinese missiles?

MR. FISCHER: The missile tests that are reported, mainly by Bill Gertz, don't appear to be that frequent. I mean, one or two DF-41s a year. We're not sure how many JL-2s. There are occasional reports of the DF-5s. It seems to be a very paced test program on the part of the Chinese.

The North Koreans are launching en bloc, largely because in my opinion they've just introduced several new varieties of missiles and now they want to prove to the world, prove to us, scare us, that they actually work. So the North Koreans are launching lots of missiles.

To get to your question, though, interface would come in the North Korean launch of solid rockets, if they were indeed a proxy. The North Koreans are transitioning quickly from liquid fuel to solid fuel. I have a theory that the KN-08 may be an export from China of a land-mobile liquid fueled ICBM that the Chinese developed in the late '70s and early '80s. They canceled that program, the DF-22.

But all of the engineering, of course, exists in a Chinese file, and that would have been pretty easy to give to the North Koreans in order to make something that would look like the KN-08 today. The origin of the technology in these missiles is hard to really nail down. The circumstantial relationship between the Chinese TEL providers is very powerful, as Gordon mentioned, and puts the Chinese at the top of the suspect list in terms of all of these missiles. The new North Korean SAM, a fourth generation SAM, strikes me as being a copy of the Chinese HQ-9, which is derived largely from more advanced Russian versions of the Russian S-300. So in my opinion, yeah there's coordination. The Chinese have helped, either directly or indirectly, selling things to -- giving things to the Pakistanis or the Iranians that have made their way to the North Koreans. So the Chinese are part of what the North Koreans are doing, but until we get to the larger solid rockets that the North Koreans just revealed in their last parade, the new MRM that looks like a DF-21 TEL and then the larger DF-41-like TEL on the Chinese truck, that's when we'll get to see more of a possible parallel between the North Korean and the Chinese technology.

MR. CHANG: Just briefly, the North Koreans are testing for somebody else. They're certainly testing for the Iranians because we know that there's a technical service cooperation agreement signed September of 2012. There are probably Iranians in that North Korean military base just south of the Chinese border. All five of North Korea's nuclear detonations were witnessed by Iranians on site.

There's an estimate that each year Iran pays North Korea somewhere between \$2 and \$3 billion for their various forms of cooperation. So you can be sure that anything in the North Korean inventory is in the Iranian inventory. As Rick has pointed out, maybe North Korea is doing this, maybe it's doing it for China, China being the hand of trying to get dangerous technologies into the hands of Iranians through their new proxy North

Korea, because the Pakistani network was shut down. You know about A.Q. Khan.

MR. FISCHER: The Chinese, in my opinion, have had a program since the early 1990s of gradually, but then more rapidly in the last decade, of building up their three main nuclear proxies: North Korea, Pakistan and Iran. The North Korea rearmament program kicked into a new phase after the 2003 invasion of Iraq. That really scared the Chinese. They immediately went on the diplomatic offensive and gave us the Six Party Talks to nowhere and nothing. Then all this missile technology really started appearing visibly in North Korea.

MR. HUESSY: Any other questions?

MR. : The U.S. and Russia have arms control agreements that talk about limiting the number of MIRVs and what not. China seems to be completely separate from all of this. At what point do we need to start bringing China into those types of discussions to limit MIRVs?

MR. SOKOLSKI: When I go to the friends that I have at the Chinese Arms Control and Disarmament Association -- it sounds pretty good and actually it's a friendly place, foreign ministry run -- when I say we need to think about making you an actual adult, and adults actually for better or worse do arms control, they say no, no, no, no. You and Russia first. When you get down we will join. You have the most, they say.

I say okay, how about missiles? You have the most. And they shake their heads, no. I think it's a comparative vulnerability.

I don't know how you're going to address the INF problem diplomatically unless you broaden the problem after you solve the immediate violation. I mean, you first have to deal with can we get some satisfaction on the violation. Can we compete and leverage the Russians to back down or not? I don't know. But if you do, then the next step has to be, now what?

Ronald Reagan had this fascination with eliminating what he referred to as "nuclear missiles." We're not sure what nuclear missiles meant, but in the INF Treaty, which I remember working to review when I worked on the Hill for Dan Quayle, it seemed to be ground-launched long-range nuclear-capable missile systems.

The Russians, in the academic world, have actually talked about the need to get rid of these systems. I don't think Mr. Putin is yet on board with that, but I think you'd want to capture some of those people, cultivate them, and hope that Mr. Putin, like all of us, eventually dies. When that happens, you want to be ready diplomatically and have prepared yourself for that broader discussion.

So I think it is exactly where you need to go, and there's another reason why. These missiles that you're describing, they're interesting even without nuclear warheads.

They are capable of destroying, targets without nuclear warheads, targets that used to be only capable of being destroyed by nuclear war headed missiles, and in numbers similarly small. So we need to probably start thinking about missile competitions and missile controls much more seriously. We haven't done it since track II in the '80s. We need to get thinking about that again.

MR. FISCHER (?): Henry, it's my sense that your conversations with the front organizations are basically mirrored by our official conversations. They tell our officials the same thing. Various legal sources kind of confirm that.

But looking at China's behavior, it's propaganda behavior and trying to discern its goals based on its behavior, it denies that it wants a range of capabilities for decades. And then these capabilities appear, sometimes very quickly: missile defense, multiple warheads, large numbers of missiles and warheads, robust outer space warfare capabilities. Taking the sum total of this and to answer your question, the Chinese will talk to us one day, when they believe they are in the position to tell us what to do. As long as we sit on our hands, that day is going to be closer rather than farther.

MR. CHANG (?): You do need to compete if you want to do diplomacy right. If you're not competing you're not going to get the diplomacy right.

MR. HUESSY: On behalf of the Mitchell Institute and ROA and NDIA and AFA, Henry, Gordon and Rick, thank you for a very, very extraordinary presentation.

(Applause).