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DWG: I don't even know whether to call you Under Secretary or Administrator.

This reminds me, I was a reporter once covering the Vatican and an Archbishop told me a story about the Patriarch of Constantinople. He was a very tiny little man, and he had two hats. He said do I call you Your Eminence or Your Beatitude? And the gentleman said Your Eminent Beatitude will do fine. [Laughter].

So are you Under Secretary, or are you Administrator? Which do you prefer?

Administrator Gordon-Hagerty: Actually Administrator would be great, thank you. But I am dual-hatted as you rightfully call out, and I've made it a point to participate with my other under Secretary colleagues within the Department of Energy so I can actually exploit the rest of the Department of Energy. Although NNSA is 60 percent or so of the Department of Energy's budget, I choose to do both. I try to cover both positions. I made that commitment to Secretary Perry when I signed up, if you will, and when the President nominated me. We've had a great relationship.

I answer to both, so I'm good with that, but thank you for asking.

DWG: Sure, and thank you for coming. It's a very busy morning in Washington. There are a lot of other events that reporter are going to, so we really have the hard core, really interested people here today and I'm grateful to you for making it.

Why don't I just start by asking, because frankly, I'm not sure everyone at the table really knows the answer to this question. What is the NNSA? What does it do? And perhaps you cold also tell us what your priorities are as Administrator, your role here.

Administrator Gordon-Hagerty: I'd be happy to. Good morning, everyone, and thanks for the opportunity.

I know we've been trying to schedule this for quite a while, so forgive my travel schedule, but that really goes to the heart of the NNSA. The National Security Administration is a semi-autonomous agency within the Department of Energy. It's 20 years old this year, so for the next year we're going to have year-long activities to celebrate the important missions, roles, responsibilities and pretty much the entire nuclear security enterprise. But it's not just 20 years old.

I like to say fondly that we are the Atomic Energy Commission 2.0, because really the vestiges of NNSA are really with the Manhattan Project. That's really where we started out, at Los Alamos, up on the Hill in New Mexico, and ultimately resulted in the Atomic Energy Commission eventually, ERDA for a short period of time, and then that folded into the Department of Energy.

NNSA is a semi-autonomous agency called out by Congress 20 years ago, as I mentioned. We have our own rules authorities, if you will. I am also, as you rightfully stated, the Under Secretary, dual-hatted in a staff position as the Under Secretary for Nuclear Security. I like to joke that I'm still waiting to find that staff. I keep opening doors every now and again looking for the staff for that position, but the staff is a staff of one. Me as the Under Secretary. And that's fine with me. I work every closely with my colleagues in the rest of the department to tap into the rest of the labs, plants and sites throughout the department.

But getting back to NNSA's mission, we have three. One is to maintain the safety, security and reliability of the United States nuclear weapon stockpile. Number two is deterring nuclear proliferation, combating terrorism, nuclear terrorism, and the programs that fall within defense nuclear nonproliferation. And the third is providing military effective power to nuclear propulsion for the United States Navy for their fleet of aircraft carriers and submarines.

So that program actually is interesting because I have three presidential appointments that have programs underneath me. I addition to my principal deputy position we have technically five presidential appointments, if you will, requiring Senate confirmation in the NNSA. Myself, my deputy, and then three

deputy administrators -- Dr. Charles Verdon who handles defense programs; Dr. Brent Park who handles defense nuclear nonproliferation; and then to the third is Admiral Frank Caldwell.

That one has interesting history to it as well. If everybody remembers, or those of us that are old enough to remember the Rickover program, that is the history of the Rickover program. He is dual-hatted. He reports both to the Department of the Navy and to the NNSA. So we provide them with the fuel, services, and he's obviously working on things like nuclear propulsion for our next generation of submarines, the Columbia Class. So we're working on those programs. His budget authority also comes through the NNSA.

So NNSA, like I said, is approximately 20 years old, this year is 20 years old. We'll have a year-long celebration of all the activities.

NNSA is made up of eight labs, plants and sites. The three national security laboratories -- Los Alamos National Laboratory; Lawrence Livermore National Laboratory; and Sandia National Laboratories. The two are the two nuclear weapon design laboratories. The third, Sandia National Laboratories, plural, is the engineering laboratory, the preeminent engineering laboratory in my mind around the world. They have locations in both Albuquerque to serve as the engineering side of the nuclear weapons program for Los Alamos, and they have a campus just north of, across the street actually, on East Avenue from Lawrence Livermore National Laboratory.

Then we have five plants and sites. We have the Nevada National Security site, also known fondly for those of us that have been doing this for a long time, the Nevada Test Site. It's still hard for me to even call it NNSS, so forgive me if I fall back into those that I know.

We took on the Nevada Proving Ground in 1950 when the United States decided to move above-ground nuclear explosive testing into the continental United States versus doing it in the atolls where we were doing it far offshore. Then eventually when we stopped doing above-ground nuclear weapon testing we went to underground nuclear explosive testing in 1963 with the Comprehensive Test Ban Treaty.

We stopped testing altogether in 1992, so we've got a plethora of data from approximately one thousand explosive tests and we use those data to contribute to and inform us about our current nuclear weapon stockpile. We have ceased underground explosive testing. We do conduct things called sub-critical experiments. Those provide zero yield. That's the Nevada National Security site.

Then we've got four other locations. We've got Savannah River site outside of Aiken, South Carolina. That's where we do our tritium production, a critical strategic material for our nuclear weapon stockpile, along with other programs. The surplus plutonium disposition, also known as dilute and dispose. That is where we were going to do the [MOX] facility. But we shuttered that program on May 10th of last year and we're going forward with reusing that facility for our plutonium pit product capabilities and manufacturing for the foreseeable future.

Another site is our Kansas City plant, affectionately known as all roads lead to Kansas City. That's where we do all of our non-nuclear production for our nuclear weapon stockpile.

Then Pantex, which is actually where we mate, it's the only facility where we mate plutonium or our nuclear explosive package with high explosives, where we do maintenance, where we do retirement of the stockpile, or where we maintain or put together basically final program planning, if you will, or manufacturing of our warheads and our bombs, and then deliver them to the Air Force or to the Navy.

I think I got all eight -- Pantex, Kansas City, Savannah River. Oh, here of course at headquarters, Forestall Building right down the street. We have our headquarters staff and then we have a small contingent in Germantown, Maryland.

So really, that's what makes up the NNSA. Our budget request for FY20 was nominally $16.5 billion, actually $16,485,000,000. I like to call it $16.4 and change. So our focus is to maintain the nuclear weapon stockpile. That's our first and foremost authority.

Let me just say one other thing about it, and I'll hand it back to you.

Because of the capabilities throughout our 44,000 person

workforce, both in stockpile management and stockpile stewardship, the research, development, testing and programs that really come to the foundation of defense programs activities is really what informs us and provides the NNSA unique capabilities to execute the defense nuclear nonproliferation and counterterrorism programs and all the other programs, because of the technical expertise resident in our defense programs activities. So the people that are working on, the primary designers, for example, at Livermore and Los Alamos, actually for counterterrorism purposes, they actually have designed nuclear weapons in the past or know how a nuclear explosive package works. So they're helping us defeat proliferation programs or potential proliferates around the world as well as participate voluntarily in counterterrorism missions.

So nobody does this forcibly. In my previous career I was part and parcel of that program, in fact I ran it for a number of years at the old Department of Energy Defense Programs before there was an NNSA. So we have quite an incredible staff, and it's really all about the staff. It's not about the new facilities and the infrastructure programs that we have in place and on track, but it's really about the 44,000 people that make up our wonderful nuclear security enterprise.

DWG: Let me ask you a couple of questions you may not be able to answer.

First of all, the Chairman of the House Armed Services Committee and a number of other prominent and influential people in town have doubts about some aspects of the modernization plan that the administration has for the nuclear weapons that you were in charge of. He, for example, argued first of all that the arsenal is way larger than it needs to be for our security. He's argued that, he has questions about whether ICBMs are worth replacing or whether this number is necessary.

So I wanted to just give you a chance to comment on that if you wanted to. And specifically, I'm also interested in whether the W76-2, the new low yield sub warhead, do you have anything to tell us about that? Is it going ahead? Is it going to be produced? And if so, when?

Administrator Gordon-Hagerty: Certainly. Thank you for the question.

I've had the honor and opportunity to actually host Chairman Smith at Los Alamos recently. Actually I should say Representative Ben Ray Luján did the hosting since it's in his district, but I tagged along. So we were able to show him the capabilities at Los Alamos National Laboratory, and I know he's visited other sites throughout our nuclear security enterprise.

The Nuclear Weapons Council, and for that matter the administration makes a determination what the strategy and plans are for what our nuclear weapon stockpile requirements are. That is figured into the process through our Nuclear Weapons Council made up of both Department of Defense entities and myself, and I sit on the Nuclear Weapons Council.

As STRATCOM sets the requirements, we execute the mission. So in terms of informing what size the stockpile ought to be, that's not in our area of responsibility. What we do is we execute.

For example, the Air Force requirements for the modernization or for the Navy systems, those are all things that we do in terms of execution. We are not part of the policy planning in terms of what the strategies are, what targeting is, and what STRATCOM's responsibilities are, but we do sit at the table, obviously, for how can we carry out these strategies and plans and actually execute. And it also informs both the Air Force and the Navy in terms of what their requirements are and when we can actually execute their missions.

In terms of the 76-2, that was laid out in the President's Nuclear Posture Review last year. We were just undertaking and completing the 76-1 life extension program which was almost a two decade long program where we had approximately ten years of design in how we were going to actually do the science behind the production and the life extension of the 76-1, and a ten year production campaign that we just brought to closure and celebrated in February, earlier this year, at Pantex.

So from there, it's because we had, we actually saved the taxpayers dollars by keeping and doing minor modifications to the tooling and to the equipment to build the classified number of 76-2 to start the execution of the production of the 76-2, low yield submarine-launched ballistic missile for the Navy, if you will, and the Department of Defense. We undertook that

program within a year of when the President directed us to do so.

DWG: So it has started, the production of those weapons.

Administrator Gordon-Hagerty: Yes, it has.

DWG: How far along is it?

Administrator Gordon-Hagerty: That's not for me to say.

DWG: Aviation Week.

DWG: Are you familiar with Project [Palay] within the Strategic Capabilities Office?

Administrator Gordon-Hagerty: No, I'm not. Should I be?

DWG: Perhaps, potentially down the road. I just wondered if NNSA would become involved in it, but it's a nuclear reactor program for the Army and Air Force?

Administrator Gordon-Hagerty: Is this the micro, Small Modular Reactor?

DWG: Yeah.

Administrator Gordon-Hagerty: I didn't know the put a name to it. So I am somewhat familiar with it, just from, in terms of the Nuclear Working Group and the [HALU] and all those kinds of things.

DWG: The SCO is within a few months of selecting the companies that would be involved in a prototype. But down the road, if it leads to what they're talking about, do you envision a role for NNSA either supplying the fuel or managing the reactors or --

Administrator Gordon-Hagerty: It's really part of the Department of Energy's Office of Nuclear Energy. That falls into the Under Secretary for Energy. But we are working closely with them obviously from a manufacturability standpoint, from a national security standpoint. But the only way that we would even -- actually, I've got to say no, we would not be on that commercial sector side.

DWG: Okay.

DWG: My colleague Dmitry [Kisano] with TASS Is the gentleman who always reminds us that this is on the record. Sir, you're next.

DWG: Good morning. Thank you so much for doing this.

I wanted to ask you about U.S. tactical nukes in Turkey, not surprisingly, probably. As you know, it was reported last month that the administration is reviewing what to do with those weapons and what's been taking place in Syria and in U.S.-Turkey relations.

So I wanted to ask you if this review has been completed, what the results are. Can you say something on the record about this? And I have a follow-up.

Administrator Gordon-Hagerty: I'm not in a position to talk about U.S. policy in terms of our nuclear deterrence.

DWG: What about TASS reports claiming that Turkey is holding those weapons "hostage". Anything on that?

Administrator Gordon-Hagerty: My prior statement stands.

DWG: Thank you.

As far as I remember, U.S.-Russian nuclear security cooperation essentially has stopped as a result of several different things a couple of years ago. Where do things stand right now regarding this issue?

Administrator Gordon-Hagerty: We look forward to having future discussions with our Russian colleagues at an appropriate time. We do have limited interactions on a scientific, on more of a technical basis with some of our Russian colleagues that continue to this day. We have limited, ongoing discussions. We look forward to having discussions when it's appropriate.

DWG: Any details on the discussions and interactions that you are currently having?

Administrator Gordon-Hagerty: Basically just on basic nuclear science cooperation that we continue to carry on.

DWG: Defense Weekly.

DWG: Thank you very much for doing this.

The CR is staying for at least a little bit, actually for longer for DoD, about particular programs that might be delayed or [inaudible]. Can you provide us with some details about what the CR, [inaudible] the CR for long term might affect your agency?

Administrator Gordon-Hagerty: As everyone knows, we are undertaking a significant modernization program of our infrastructure as well as five major [LEPs] and modernization programs for our nuclear weapon stockpile. Obviously our systems, and I'll just give you some statistics. More than 50 percent of our facilities in the NNSA enterprise are more than 40 years old, and one-third of them, at least one-third of them were constructed during the Manhattan Project, so they're over 70 years old.

We are in a situation right now where we have single point failures throughout our enterprise. It's necessary for us, for the NNSA and for the nuclear security enterprise, to receive consistent and robust funding to modernize our infrastructure as well as continue ongoing operations. That also includes our workforce. More than 40 percent of our work force will be eligible for retirement in the next five years. So we've undertaken a massive workforce engagement strategy. And we're moving forward and we're seeing the fruits of our labor in that regard.

So it's important for us to receive the resources necessary to execute those missions.

If the CR continues, we are already rebalancing our efforts and looking at, I mean we've gotten ahead of this. We're looking at where we can move funding insofar as CRs will allow us to do so. We're working very closely with OMB and the administration to see what we can do to continue our important programs to modernize the infrastructure as well as the stockpile and our workforce initiatives and our endeavors.

We're hoping for the best and we're hoping that Congress will provide the necessary funding for us to execute our missions.

DWG: You talk about rebalancing. Can you give us a priority list? Is it facilities first/

Administrator Gordon-Hagerty: It's all of the above, actually, because one influences the other. If we put a hold on workforce then obviously workforce reduction or freezing the workforce obviously will affect execution of our missions.

So we have a number of different programs. As you know, we have a facility, quite an interesting facility that we are constructing right now. The uranium processing facility, for example, at Oak Ridge Tennessee, at Y12. That was the other place, Y12. I knew I forgot one. Excuse me. Y12, which is where we do our secondary work, our can sub-assemblies and all of our uranium work. So thanks for reminding me.

But with regard to the uranium processing facility, it's been on schedule and on budget for the last six years. It will be finished in 2025 for approximately $6.5 billion. If that funding somehow fails to materialize, then we've got over 1,000 crafts working at the site right now. Crafts personnel are hard to come by, especially those that are qualified. So if they see a question about funding or funding gets pulled back, they're going to find positions elsewhere. Their skilled labor workforce is incredibly important to us and we thank them every day for them staying on the job. But if we don't see consistent and reliable funding for programs like that -- and this isn't something where you just say well, you need X hundred million dollars and you get 50 percent of that this year, you'll just tag it on the back end. It doesn't work that way.

When you have a program plan like this and something is as important as this facility to complete it's going to take many, many more years than that, just tagging an extra year on the back side of it.

More importantly is that we're operating in a facility in 92-12 that, like I said, is more than 70 years old. So we're investing taxpayer dollars into keeping that facility safe and secure so that we can conduct and execute our missions.

So we have a lot of different issues going on, whether it's infrastructure maintenance. We've got over $2.5 billion of excess facilities throughout the NNSA that we are funding just

to maintain their safety. So eventually they will be rolled off the books. So we've got a lot of different programs ongoing.

So balancing all of those is an art, and we've got a great team of people working. We've done some things that we haven't done in the past necessarily where we're bring in our labs, plants and sites and having these conversations with them so they understand along the, to integrate the entire enterprise. And it's not just about Site A, B, C, or D. It's about our entire nuclear security enterprise because one issue influences the next.

For example, if you have an issue at Pantex, that could back up issues at Kansas City or at Y12 or pick a different location. Same thing at Kansas City. It influences how we do work when we ultimately deliver material to Pantex to execute our missions.

DWG: One specific question, a follow-up on the CR stuff. Dr. Verdon's in the last month talked a lot about the commercial part issue that's [about] the 76 and the W-88. He said that's a project you guys are actively working on.

Administrator Gordon-Hagerty: Absolutely.

DWG: Progress on. Is that something that could be delayed by funding issues? And then that has a follow-up effect on delaying the programs going forward?

Administrator Gordon-Hagerty: Actually, that's a great question. First of all, it's not about the $75 part. It's about the hundreds of millions of dollars and the infrastructure delays and the personnel delays. It's everything that I just described to you. So it's not about a $75 part. It's how are we continuing to integrate with our customer, the Navy and the Air Force, because of the scheduling delays? And how does that then back up all of the other ongoing modernization programs that we have?

So when you think about it, everything we do has an impact, if you will, and can flow into the next process. So we're very careful and very cautious about that. But under Dr. Verdon's leadership there's no doubt in my mind we will get our arms around this.

With regard to additional resources necessary for this, right

now we are rebalancing the work that we're doing on the 87, the 80-4 and we are not at the present time seeking additional resources in the '20 budget to make up for the differences and the losses that we will see for the delay. But this delay is important because it does affect all of the other modernization programs and all of the other work that we have ongoing throughout our nuclear security enterprise.

DWG: You've characterized in testimony earlier this year and sort of this period as being one of the most busy in the post Cold War period. Can you just talk a little bit about that? Characterize the scale and scope of all the things that you have going on?

And you've talked about how many people are eligible for retirement and you're recruiting people. Are you making that addition to the number of workers? Can you say how many the net increase in workforce has been?

Administrator Gordon-Hagerty: Absolutely. Let me take the last one first because I'm very proud of the work that we are undertaking and the scope in the NNSA. About a year ago we undertook a program throughout the entire NNSA, the nuclear security enterprise, as I mentioned, more than 40 percent of our workforce will be eligible for retirement in the next five years. That's a profound number when you really think about it. And these aren't people that you just bring in off the street and you replace Person A with Person B. These are positions such as primary and secondary designers. These are technicians. These are lawyers. These are contract management specialists. So all of the above. We are replacing or investing resources into that.

The other thing we've done is, we've gone out and done a corporate strategy in terms of hiring approach. Traditionally all the labs, plants and sites and headquarters and the field offices have had their own sort of stovepiping hiring practices.

So in addition to that. Not in lieu of, but in addition to that we have put together a corporate enterprise approach. So we have now Nuclear Security Enterprise Days throughout the United States where we're working with colleges and universities, technical colleges. We've done two here in Washington, DC for those of you that take Metro or listen to the news, NPR or WMAL, you might have heard it that the nuclear security enterprise is

hiring. We had over 2,000 people at the very first one that we conducted in January. We've had hundreds of people. We've been at Georgia Tech, Texas A&M two or three times, Purdue twice, going to my alma mater, University of Michigan in the near future. So we've been all around. We're finding new pipelines of future workforce, whether it's, like I said, looking for scientists and engineers.

We have the best and the brightest in our nuclear security enterprise, and we want to keep that up for the workforce for the future . So we're looking forward to continuing that strategy. We've had unbelievable success in that area. And again, it's beyond science and engineering. It's getting foreign policy experts and foreign affairs experts and contract managers. So we're looking for everybody throughout our nuclear security enterprise.

I had a couple of nay-sayers in the lab directors, that they didn't really think that this could have legs. I was honestly pleasantly surprised when one of the lab directors who shall remain nameless was at his alma mater and he was approached by their Dean of Admissions and asked if they could sponsor one, and could he take the message back to NNSA to ask if they could sponsor one in a northeast university.

So it's getting great traction. We've got a long way to go, but we need to find different pipelines than the traditional Purdue, Michigan, Texas A&M pipelines that we've had in the past.

DWG: You mentioned your workforce has 44,000. Is that number increasing?

Administrator Gordon-Hagerty: Right now we're looking at the right weight, but I will tell you, we're hiring between six and seven thousand people a year and we will see that in the future. Yes, the number is increasing, and the number is increasingly most notably because it goes to the first part of your question, the issue about where were we in the last 20 years. And really where we were in the last 20 years, and as I've mentioned so many times and in my testimony, that we're busier than ever before, at least since the Cold War. We've had one life extension program going on effectively for the last 20 years. So when you think about it, the campaign that just completed in February, now we have five major modernization programs going on and we're doing them concurrently.

So you think about the workforce requirements and the implications to our infrastructure and to everything else that we're doing, it has profound effects. Los Alamos has just hired 1600 people this year. They've just hit their recruiting number. And when you think about it, Los Alamos isn't the easiest place to get to much less work at. So they've got constraints. They're on a mesa. There's only so much housing. So you've got people driving from Albuquerque 100 miles away every day to go to work at Los Alamos National Laboratory. We're finding new ways of working, Director Mason is working with the local communities to see if they can find other ways of building new housing for our workforce. We've got a lot of good work going on throughout our enterprise and it's critical work, but we need the work force in order to do so.

Same thing at Livermore. Sandia just hired almost 2,000 people this year, so they will hit their record. We are going to have our highest recorded federal employee workforce in the NSSA. We just exceeded our cap of 1691. We are going to be -- this one I should say don't quote me on, but I want to say -- 1691 was the cap that Congress put on us. We've exceeded that. I've notified Congress that we have exceeded that. I believe we are at 1753 is the last number. And those people, that's the appropriate workforce. It's not just putting bureaucracy on it. It's making sure that as we increase the mission space across the NNSA enterprise that we have the appropriate health and safety and security oversight that is necessary to execute our incredibly important missions.

DWG: You talked about hiring at Los Alamos and Sandia, the net increases, and the six to seven thousand that you're hiring per year is that a net increase?

Administrator Gordon-Hagerty: No, it's not. It's actually part replacement, part a small net increase.

DWG: How big is the net increase?

Administrator Gordon-Hagerty: The net increase I would say at Los Alamos, boy that's a difficult one. I don't want to get myself -- can you get this?

DWG: Or overall for the workforce.

Voice: We can get that for you.

Administrator Gordon-Hagerty: I know our management and budget people have it, but we'll get that one for you.

DWG: 1700 federal, right?

Administrator Gordon-Hagerty: Uh-huh, and the rest are, many of you already know this, but let me state that since the Manhattan Project and the Atomic Energy Commission, we are uniquely situated where NNSA operates by management and operating contracts, so we're a government owned contractor operated community. I choose to look t us as a team and partnership rather than subs and contractors. We talk about a partnership because we are team aligned across our entire enterprise.

DWG: Defense Daily.

DWG: Parsons did an engineering analysis, which by now I've beaten to death. I'm sure you know about it. I showed it to Dr. Verdon at a hearing in April because it said essentially that the NNSA will probably have trouble getting 30 pits a year out of Los Alamos by 2030 or by 2027, whichever it is. They have a threshold date. Anyway, the Parson report found that you may not be able to hit that very easily.

I asked Dr. Verdon, I showed him the stoplight chart that showed this and I said what do you do? He said our SMEs have found a way to pull this back to the left and get it done and have 30 a year by 2030. And I said great, how are you going to do that? He said that's part of CD-1, and you're requesting funding for CD-1 in 2020, and the budget request doesn't say where that silver bullet is.

So I was just curious. You mentioned it too in testimony. You told one of the Armed Services Committees that you found some efficiencies, that you were happy to tell them about it. I'd love to hear about those efficiencies. How are you going to pull that date back to the left at Los Alamos to get to the 30 pit a year throughput?

Administrator Gordon-Hagerty: Thank you. You're exactly right. The Parsons study said it would be challenging for us to get to the numbers, so let me just step back a moment and let you know what our plutonium pit manufacturing program is going to be.

We've decided to go with a two-pronged approach or effort to ameliorate and to minimize the effects of down time and also to meet the requirements of STRATCOM. What those requirements are is not less than 80 pits per year by 2030. It sounds like a long time away, but I keep reminding people that that's only about 10 years away, and in order to be able to manufacture that at two different places, you don't just turn on the lights in 2030. You have a lot of work to do, both cold starts and hot starts. So we do have a very tough row to hoe.

Let me remind everybody, too, that also we haven't had a plutonium pit manufacturing capability in the United States since 1989. Thirty years since we had a plutonium pit production capability. That sort of informs us on where we are in the challenges ahead. Since we don't do pit production capabilities at the present time we are having to re-learn those techniques and those capabilities. The work we're doing at Los Alamos will get us to ten pits by 2024, 20 pits by 2025, and 30 pits per year, and then enduring after that at Los Alamos.

Los Alamos is a nuclear weapon design laboratory. It was never intended to be a production facility. So we're asking them to do both. Be somewhat production and to continue to do the phenomenal work that they do in terms of plutonium science, actinide science and engineering, chemistry and everything else that we do at Los Alamos because it is the only place that we can handle those quantities of plutonium in our entire enterprise.

Concurrent with that, we have decided to use the facility, the partially constructed facility of [MOX] at Savannah River to continue to do production capabilities at Savannah River. That requirement will be to produce not less than 50 pits per year at the Savannah River site in 2030.

So we've got challenges ahead there. What we're doing with that two-pronged approach is it's building resiliency into the most critical elements of our nuclear security enterprise.

A lot of people ask me from a resiliency standpoint, well, we've got some single point failures throughout our entire enterprise, and yes, that's true, but we've had t prioritize and balance what those priorities are.

In terms of the CR and the issues associated with getting CD-1, we are again, rebalancing, looking at our budget across the entire enterprise to see what it is we need to do to meet the scope and schedule of that 2030. Am I confident we can get there? Yes. Is it fraught with, probably a bad way of saying it, landmines? But it is. It's that consistent and reliable funding. It's the support from Congress and the administration to get us there.

Again, we are the only nuclear weapon state that is neither designing nor fielding new nuclear weapons. The only nuclear weapon state that is neither designing nor fielding new nuclear weapons. What we're using is we're modifying and reusing materials from our current nuclear weapons stockpile that was informed by our underground explosive testing periods. We're modernizing our stockpile. We are not building new nuclear weapons. And what we need is for these pits, this is for the 78 replacement which is the Minuteman III that Mr. Ensor alluded to before about whether we need them, that's the replacement for the Minuteman III, that will be the GBSD which is the 87-1. The 87-1 is reuse of materials. It is not new nuclear weapons. It is using a design that we already have in the stockpile in the 87.

So what we are doing is reusing materials, making new materials obviously. Those of you who know the story about our nuclear security enterprise where we actually had vacuum tube in previous nuclear bombs and weapons. We're coming into the 21st century.

The other thing I note about that is that is a testament to the unbelievable brain power and attributes of our nuclear security enterprise and our workforce. The fact that nuclear weapons that were built and designed to be in the stockpile for 15-20 years now will have life extensions put on them for 70 years or more.

We've reintroduced the 76-1, the life extension program we've just completed, to extend the life of the 76-1 which, not surprising, 76 was sort of the year in which it enter into the stockpile in the early '70s. We will now extend that for another 20-50 years in the stockpile because of the exquisite science and engineering capabilities of our labs, plants and sites. That's a testament to the intellectual prowess across our nuclear security enterprise.

DWG: Excuse me for interrupting. You stopped listing throughput rates after 2024. Is NNSA no longer targeting 30 a year by '26?

Administrator Gordon-Hagerty: I'm sorry. 2024 is our requirement for 10; 20 in 2025; and getting to 30 and enduring 30 in 2026 at Los Alamos. And it will continue.

We're looking at different avenues. We're looking at increasing the workforce so we can do additional throughput through surge capacity. We're doing everything we possibly can to look at unique ways.

We're not doing business in the past like we did in the '50s, '60s and '70s, which there was nothing wrong with that. It's just now we have different requirements and we need to meet and exceed those requirements, and that's a commitment we've made to STRATCOM.

DWG: So holding fast at 30 a year in 2026.

Administrator Gordon-Hagerty: Absolutely.

DWG: Can you take the production mission away from LANL is Savannah River Processing gets built to the full imagined capacity? Does the production capacity ever leave LANL once Savannah River is online?

Administrator Gordon-Hagerty: Not as far as I'm concerned, and I will tell you why. Because that plutonium science I was talking about, the actinide chemistry and all the work that we do, we don't know how plutonium ages. We've got a pretty good idea that we're going to have issues with plutonium aging and other work that's being done, that can only be done at Los Alamos. You can never do the science at any other location other than Los Alamos. So it's a tie. It's tied in integrally with the plutonium science chemistry, all of the work that we're doing at Los Alamos figures into how we will continue to manufacture pits. So the work will --

DWG: So LANL does --

Administrator Gordon-Hagerty: Absolutely.

DWG: -- rest of the modernization. I'm sorry, and this is a real [rude] question, but would you consider serving as Deputy Secretary of Energy if the President asked you to?

Administrator Gordon-Hagerty: I am honored to serve in the position that I have, and I'm honored to serve this administration and honored to serve the American people.

DWG: Would you serve in a second term?

Administrator Gordon-Hagerty: If the President so chooses to seek my advice and counsel I would consider that seriously. But let me just say I'm very happy. I keep telling people, and I honestly believe it, I have the best job ever. I am perfectly happy in the position that I'm in now.

DWG: Can I just ask before I turn to Sarah from Inside Defense, are there nuclear weapons currently in our arsenal that are still relying on vacuum tubes?

Administrator Gordon-Hagerty: Let me just say we've moved beyond that.

DWG: So the answer is no.

Administrator Gordon-Hagerty: We are modernizing, for example, the 88 right now, we're modernizing the arming, fusing and firing sets. We're doing work to modernize our entire stockpile both the nuclear and the non-nuclear components of the nuclear explosive package and the entire warhead. So we have moved on.

DWG: Thanks so much for doing this this morning.

I have a question sort of following up on what Aron asked about the capacitor issues that led to the delays with the B-61 and the W88 program.

Dr. Verdon mentioned in his recent testimony that there were internal reviews into what happened, what the ramifications would be for the schedule, the cost, potentially talking about using internal funding from the W87 and the W84 and what the consequences for those programs would be.

I'm curious if you have any updates to those reviews that you can share, any changes that re being made internally, whether

that has to do with the capacitors or other approaches to management. I'm also curious about the employees that have been hired this year, if any of them were intended for those programs but now have had to shift internally to other projects maybe because of the delay?

Administrator Gordon-Hagerty: At that level of detail I wouldn't be in a position to offer you insights into those new employees. And about those new employees, remember, like I said, we just don't hire people off the street. I'll give you a couple of details.

First of all, we're doing really well on security clearances at a time when security clearances took over a year to obtain, which means you're bringing in the best and brightest, whether technicians or primary designers or whatever they are, scientists and engineers. They have to sit for a while and wait until they get their security clearances. We're down to less than 200 days on security clearances which is pretty amazing throughout our nuclear security enterprise. We have worked, we've broken through the bureaucracy, working with OPM to obtain clearances in a different manner. They're obviously doing the rigorous background checks and all of that, but we're working with them at a local area rather than from Washington throughout all of our sites, throughout our entire enterprise.

So that's a good thing, which means we bring people on much more quickly.

The other thing I want to note, and it goes to Dan's question about plutonium pit production. It takes us approximately two years to train a technician before they're allowed to put their hands in a glove box. So you think about the health and safety ramifications and the security ramifications. We work in what we call cold areas so that they are playing with material and working in glove boxes. And for those of you, I don't know how many people around the room have ever put their hand in a glove box, but I have. It's not easy. With lead gloves, with working standing, doing, this is a rigorous type endeavor, if you will. So it takes us a while to train people before we're allowing them to put their hands in a glove box and work with plutonium or highly enriched uranium, or pick your strategic material.

I just wanted to put that on the table, because we're not, again, I want to make it clear that we're not just bringing

people in and all of a sudden they go to work tomorrow. It takes a lot to work in our very unique nuclear security enterprise. Again, whether you're a technician, high explosives technician, plutonium worker, or for that matter a primary designer or secondary designer. I don't know of any college or university that has the study of primary design or nuclear weapon design. I'm being tongue in cheek here, but really when you think about it, the years and the decades that it's taken, and to transfer that knowledge base which goes to the issue about how are we maneuvering our new employees in with the seasoned employees and finding that overlap so we can transfer that knowledge base that we have. So that's incredibly important.

We have a lot of moving parts here. Can we do it? We absolutely can do it.

Let me get back to the capacity issue and to the funding. Dr. Verdon was exactly correct. We've undertaken that lesson three studies internally. I'm careful about the word study because what we've done is we've brought together small integrated project teams to look and see what happened. So one, we can learn the lessons from what happened with the capacitor. It goes to the issue that we had one LEP going on for the last 20 years or so and we have allowed a lot of our capabilities internally, inside the nuclear security enterprise, to either atrophy or go away. We didn't need that number of capacitors previously. So therefore the mom and pop shops or the unique capabilities of companies from which we produced materials, and it's not just capacitors, it's when you look at it, all of the above. Our high explosive capability here in the United States is down to a single capability, Holston. I mean we've atrophied throughout our entire defense industrial complex.

And let me say something about that. When we hear about the defense industrial complex, NNSA is our own defense industrial complex when you really think about it. Where else can I go and get the unique components and parts? They're not available, and we can task the rest of the defense industrial complex but I don't know of any other place I can go and get plutonium or highly enriched uranium or the critical materials that we need. WE are our own industrial complex.

So to that end, we found challenges in how we got to where we are. In the past we procured 30 percent of the materials from

outside, outsourced the materials in the commodities that we required. We're now, instead of 30/70 where we had 70 percent in-house, we're now at 70 percent procurement outsourced and 30 percent in-house. So that's a huge Change. So what we're doing is --

DWG: -- ratio changing as part of the --

Administrator Gordon-Hagerty: Absolutely. We've seen it. It's just turned on its head. But what we're doing is we're looking and seeing what can we do from a manufacturability standpoint? So we designed something. So the designers, so Livermore, Los Alamos and Sandia will design something for the life extension program, for the modernization program, all of the above. And it's one thing to design it. It's another thing to manufacture it.

So what we've done is we put together integrated project teams. Quite unheard of, because what we're doing is we're looking at who's manufacturing it in the production site, whether it's at Kansas City or Sandia. Because Sandia is now taking on a small role in production also to take some of the excess requirements off of Kansas City. Because we're sharing, we're an integrated enterprise, and they can do the work as well.

So what we're doing is we're looking across and saying we need this widget. That's the way the designer made it. They used to throw the design over the fence so to speak, tongue in cheek. Now what they're doing is they're working with the production sites to say in a very integrated fashion, in every single part of our enterprise, to say now can we manufacture that? That's what Dr. Verdon's undertaken. We've got a great new manufacturability program across our entire enterprise, so we're doing that. To the point of the funding. We're not looking or seeking for any additional funding based on this delay, but let me state again, it's having an effect across our entire enterprise and what we're doing is minimizing the effects of that delay across our enterprise.

DWG: Have you seen any effects o the W87 and the W84 since those are the ones that he mentioned, you know, funding will be taken out of in order to pay for the cost of the B61 and the W88? Have you determined if that will lead to any schedule delays or any other issues for those programs?

Administrator Gordon-Hagerty: Right now what we're doing is we're balancing all of those programs across the enterprise. And right now I cannot say that, what we're doing is looking at that to see if it will figure into the '21 budget, but for the '20 budget, no. What we're doing is we're balancing our management reserves and the resources that we have, and we're looking -- not unlike what we're doing near term with the CR. We're rebalancing our efforts across our entire enterprise to minimize the resources necessary to get us. I'm not in a position to say today that we will need a dollar more for our programs. We are balancing it with the 87 and the 80-4 right now. And we're working very closely on a day to day basis with our two customers, being the Navy and the Air Force, on all of the systems. I cannot honestly say, I've not seen us in a very long time and I've been in this business for more than three decades, where we are aligned completely with the Air Force and with the Navy, and we have great relations with all of our customers, all of our clients. And in fact as General Hyten likes to say, our partner, not just our customer.

DWG: Is 80-4 CD3 baselined?

Administrator Gordon-Hagerty: I don't know.

Voice: We'll get back to you, Dan.

DWG: Kingston Reef. Thank you for doing this this morning.

I wanted to follow up with respect to the B61 the delays that the program is encountering.

Back in the 2010, 2011 timeframe when this program was just getting off the ground, your predecessors said that the requirement for the FPU date was 2017. And in addition to the importance of managing NNSA workload issues, the reason that the FPU date was 2017 was that if it was later than that, then U.S. commitments, extended deterrence commitments to NATO could be called into question.

Of course since then that date's slipped to 2019, then 2020, and now we're looking at the last quarter of 2021.

So my question to you is, there's been a change in the FPU date. Is anything going to need to be done to address some of the aging, non-nuclear components in the weapons, some of the

limited life components before you know, you actually get to the FPU date, to the Mod 12 for the B61?

Administrator Gordon-Hagerty: That's a great question and that's what we're looking at every single day.

As many of you know, we conduct something called surveillance where we actually take nuclear weapons out of the stockpile from time to time. We actually cut them apart and take a look at them. We do [keep-ons] on plutonium. We look at every single individual part to see how it's aging and the effect of materials sitting next to each other. So we've got a profoundly important surveillance program and that's how we've gotten to where we are which figures into what do we need to do to modernize our stockpile and continue to do so? It's a question.

I just finished the Rosa prebriefs with the three nuclear weapons lab directors and they're confident that we will manage through these issues.

We don't see any major issues right now, but those at the tactical level, if you will, the individual parts. Nuclear weapons are made up of hundreds if not thousands of parts when you really break them down. So yes, we have consideration, but Mesa, at Sandia, looking at nuclear hardened, radiation hardened pieces, things like that, everything we do, we look at every single piece individually as well as a nuclear explosive package. And we're working through all those issues. Whether it's because of the 61-12 delay or whether it's because of any other issue. But we keep our eyes on every single one of those parts.

DWG: And does the position continue to be that there's no impact, even with the delay on --

Administrator Gordon-Hagerty: Yes.

DWG: -- and continuing U.S. commitment to the NATO nuclear --

Administrator Gordon-Hagerty: That's right. For our nuclear deterrent and the extended deterrence. That's exactly right. And we're working, like I said, very closely with the Department of Defense to whom we deliver our warheads and our bombs and that actually maintain the triad for us so that our deterrence is second to none.

DWG: Were you asking like did the 6-12 LEP go on so long that the LEP, that the extension needs to be extended? Is that sort of what you were getting at?

Administrator Gordon-Hagerty: The question was if originally the FPU date was 2017 and now we're roughly four years later, does anything need to be done.

Administrator Gordon-Hagerty: It does, thank you. And we were monitoring that and we will continue to do so not only for the 61-12 but the 88, All 370 and every other program, modernization program we have ongoing.

DWG: Why does 78 need a new pit? 76 need a new pit? If you could talk to why the 78 --

Administrator Gordon-Hagerty: To the degree that I can. We're adding modern surety features and safety features into the 87-1, so the 78 is the ICBM currently and it will be replaced by the 87-1 pit. Those will be all new components. It will not be a new design. We're looking at additional safety and surety, security features that we will implement into that. And that has to do with the design.

DWG: Are you considering a number higher than 80 as your target for the number of pits you want to produce?

Administrator Gordon-Hagerty: The requirement is outlined by STRATCOM, is not less than 80 pits per year, so as with any production or manufacturing capability, you don't just build the X number, you have to build additional more to get your number of 80, if you will. So it's really a numbers issue. What is the requirement as outlined by the Air Force for the GBSD. And when you think about rolling off the ICBMs, what number will you need? That's how they got to 80 pits per year.

DWG: Are you thinking about a number higher than that as your target?

Administrator Gordon-Hagerty: The target as specified by STRATCOM is not less than 80 pits per year, and actually in some documentation it says between 80 and 120. But our target for both Los Alamos and Savannah River site are not less than 80. Again, we'll look at things like surge capacity, how do we get

to that number? But the requirement as directed by STRATCOM and approved by the Nuclear Weapons Council is not less than 80 by 2030.

DWG: So the actual throughput of the complex as envisioned might be more than 80 a year, but would average 80 a year?

Administrator Gordon-Hagerty: Yes, because some are rejects, if you will, for want of a better term. So you don't just build 80 and expect 80. And no production capability in any way, shape or form in anything, whether it's plutonium pit manufacturing or whether it's clothing builds exactly the number as described.

DWG: So what's the number that you're actually thinking you have to be --

Administrator Gordon-Hagerty: Not less than 80.

DWG: But what's the actual number?

Administrator Gordon-Hagerty: As directed by STRATCOM it will be not less than 80 between --

DWG: For your internal planning and preparation.

Administrator Gordon-Hagerty: That number's classified, but let me just say that we have to have significant throughput in order to get the not less than 80 pits per year.

DWG: And that throughput would be about --

Administrator Gordon-Hagerty: We're looking at a modest throughput of not less than 80. [Laughter].

DWG: Finally, I realize that your obligation is to provide the nation with a working stockpile of nuclear weapons. And it is not to plan the strategy of the United States for warfighting and so forth. However, there's a lot of discussion about -- I mean the science doesn't stand still. And I wonder from the perspective of the person that has the responsibility you have, as you listen to no doubt your scientists discuss some of the things that are going on in the policy planning area such as development of hypersonic missiles, such as the potential cyber threat to command and control of nuclear weapons. There may be others. There are many others. Areas where science may be

advancing in ways that may affect your ability to provide the aforementioned stated number of nuclear weapons that will work against targets and will defend the country.

Of the things that seem to be moving in that area, is there anyone that you would point to that is a concern that you would like to make people understand? For you to be able to do your mission, it's something that needs to be addressed?

Administrator Gordon-Hagerty: Let me just suggest that we as an enterprise are working very closely with STRATCOM and the policymakers, if you will, to look at the strategic threats that we are encountering now and what we anticipate encountering in the future.

Obviously, nuclear weapons have to be robust to break through defenses and so whether that's looking strategically at what capabilities we need now or what capabilities Department of Defense will need in the future, we're working very closely with them.

You mentioned hypersonics. We are currently not undertaking a nuclear hypersonic unlike other nations. We are looking at programs to see what we can do about defeating air defenses, but I would say that that's really a question for DoD, for policy, and for STRATCOM.

DWG: Are you considering or studying the possibility of a nuclear hypersonic?

Administrator Gordon-Hagerty: No.

DWG: Not even studying it?

Administrator Gordon-Hagerty: Well, studying is a different story, but that wouldn't be us studying it.

DWG: Would it be done under an NNSA contract at one of the labs?

Administrator Gordon-Hagerty: To study whether or not we can take a nuclear explosive package and attach it to?

DWG: Yeah.

Administrator Gordon-Hagerty: We are not being directed to at this time.

DWG: But I'm just asking you whether you're studying it.

Administrator Gordon-Hagerty: That's a hard one to answer in terms of whether we're studying it. We were studying it in the '80s, in the past, but --

DWG: A current study?

Administrator Gordon-Hagerty: No. There's not a current study.

DWG: At any of the labs.

Administrator Gordon-Hagerty: No.

DWG: Madame Administrator, thank you so much for coming today. It's been fascinating.

Administrator Gordon-Hagerty: You're very welcome.

DWG: And wonderfully into the weeds.

Administrator Gordon-Hagerty: I love my job. But thank you. Again, thank you for the invite, and it's really nice to see everyone. I know a lot of people around the table, so thanks very much.

I also am leaving you with, I'm not shy, to leave you with our strategic vision for the NNSA so it gives you an idea if you haven't had a chance to see it. And also we put together a governance and management document that shows our guiding principles throughout our entire enterprise. And we also have, and I know you get one, we have our road map. What we're doing and how we're going to be modernizing our entire enterprise in the future. So you're welcome to take them, and I hope you'll find them interesting because they talk about our modernization programs not only for our infrastructure but also for all of the modernization programs for our nuclear weapons and bombs, all of our programs.

So again, thank you for all of your time, and I look forward to seeing you all again soon. I'm sure.