

1 HEARING TO RECEIVE TESTIMONY ON
2 THE DEPARTMENT OF ENERGY'S
3 ATOMIC ENERGY DEFENSE PROGRAMS
4 IN REVIEW OF THE DEFENSE AUTHORIZATION REQUEST
5 FOR FISCAL YEAR 2020 AND
6 THE FUTURE YEARS DEFENSE PROGRAM

7

8 Thursday, March 28, 2019

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10 U.S. Senate
11 Committee on Armed Services
12 Washington, D.C.

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14 The committee met, pursuant to notice, at 9:29 a.m. in
15 Room SD-G50, Dirksen Senate Office Building, Hon. James M.
16 Inhofe, chairman of the committee, presiding.

17 Committee Members Present: Senators Inhofe
18 [presiding], Wicker, Fischer, Cotton, Rounds, Ernst, Tillis,
19 Cramer, Scott, Blackburn, Hawley, Reed, Blumenthal, Hirono,
20 Kaine, King, Heinrich, Warren, Peters, Manchin, and Jones.

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1 OPENING STATEMENT OF HON. JAMES M. INHOFE, U.S.
2 SENATOR FROM OKLAHOMA

3 Chairman Inhofe: We will come to order. Consistent
4 with our policy of starting on time, it is now time.

5 I appreciate your being here. And I want to say one
6 thing to Secretary Perry. You have a lot of fans here that
7 you did not know you would have because just 28 and a half
8 miles north of Texas is Fort Sill, and Fort Sill is in
9 Washington this week. And so we were talking about the fact
10 many of them are going to come and see. A lot of people are
11 not aware of what the Senate Armed Services Committee has to
12 do with this whole issue that we are going to be talking
13 about today. So this will be an opportunity to do that. We
14 thank you for being here and for your service.

15 The committee meets to receive testimony on the fiscal
16 year 2020 budget request of the Department of Energy's
17 atomic energy defense activities.

18 I would like to welcome our witnesses, Rick Perry,
19 former Governor of Texas, and Lisa Gordon-Hagerty. Both of
20 you distinguish yourselves in your fields, and we are very
21 fortunate to have your service.

22 The committee's top priority is to support an effective
23 implementation of the National Defense Strategy. The NDS,
24 which is this manual right here -- the commission that put
25 this together -- just as a reminder, this is equally

1 Democrat and Republicans. It is something that is the
2 blueprint for everything that we are doing in the military
3 right now. That commission made it clear that maintaining a
4 nuclear deterrence is required. In recent years, since the
5 Cold War ended, Russia and China have increasingly
6 prioritized nuclear programs, while our lack of focus on
7 these programs -- we are paying for it now because they have
8 caught us in many areas.

9 We heard a few weeks ago from General Hyten at STRATCOM
10 about the need to modernize our nuclear triad, and as he
11 mentioned, it includes the Department of Energy's warheads
12 and infrastructure.

13 Secretary Perry, about three-quarters of your
14 Department's fiscal year 2020 budget request is in this
15 committee's purview and will help us continue this vital
16 work.

17 I was pleased to hear that NNSA recently assembled the
18 first W76-2 low-yield warhead, which was recommended by the
19 Nuclear Posture Review and authorized by Congress last year.
20 This is an excellent example of how responsive the nuclear
21 enterprise should be. From a requirement to production, it
22 happened in just 1 year. You do not see that very often.

23 But we cannot be responsive when half of our facilities
24 are more than 40 years old and a quarter of them date back
25 before World War II. We need to modernize infrastructure

1 across the complex. I was disappointed to learn that we
2 have workers in buildings with chunks of concrete falling
3 off the ceiling and flooding damage -- rooms and expensive
4 equipment that cannot be quickly repaired.

5 You know, we have some pictures at each of the desks up
6 here and also with the two of you, who have seen this many
7 times, just to kind of get a visual of how bad things are.

8 [The information referred to follows:]

9 [COMMITTEE INSERT]

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1 Chairman Inhofe: And we are going to have to correct
2 that. We owe it to the men and women who work across the
3 nuclear enterprise to provide state-of-the-art 21st century
4 facilities to work in. I am glad to see that the Department
5 is requesting substantial funding for infrastructure
6 modernization. I hope that we are going to be able to
7 maintain the bipartisan consensus to fund this work in the
8 future.

9 I look forward to your testimony and thank you for
10 being here.

11 Senator Reed?

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1 STATEMENT OF HON. JACK REED, U.S. SENATOR FROM RHODE
2 ISLAND

3 Senator Reed: Well, thank you very much, Mr. Chairman.

4 Let me join you in welcoming Secretary Perry back to
5 the committee, and I also want to welcome Administrator
6 Gordon-Hagerty who is appearing for the first time. Thank
7 you both for your service.

8 The President's fiscal year 2020 budget request for
9 defense-related activities at the Department of Energy is
10 \$23 billion. This is a 4.3 percent increase over last
11 year's enacted level, and it is approximately 73 percent of
12 the entire \$31 billion request for the Department of Energy.
13 The specific request for the National Nuclear Security
14 Administration, or NNSA, is \$16.5 billion, an increase of
15 \$1.2 billion, or an 8.3 percent increase, over last year.
16 Given that defense-related activities comprise such a large
17 percentage of the Department's budget and the large proposed
18 increases to the NNSA budget, I want to particularly thank
19 the chairman for asking these witnesses to testify before
20 our committee today.

21 Administrator Gordon-Hagerty, the requested \$1.2
22 billion increase to the NNSA budget is intended to help meet
23 the requirements of both the 2010 and 2018 Nuclear Posture
24 Review. The NNSA's workload is at its highest peak since
25 the 1980s with plans to overhaul five weapons systems over

1 the next 15 years. These projects include a cruise missile
2 warhead first built in 1980; the B61 gravity bomb, which
3 first entered production in 1961; and an ICBM warhead, which
4 entered service in 1978. All of these programs will require
5 nuclear and non-nuclear parts from your complex at the same
6 time. The NNSA is also preparing to product 30 pits per
7 year at Los Alamos which will require extensive new
8 equipment while, at the same time, NNSA is building a \$6.5
9 billion building at Oak Ridge to handle uranium. I am
10 interested in your approach to ensuring all these projects
11 can be accomplished on time and on schedule and on budget.
12 It is quite a challenging list.

13 Also, in anticipation of this increased workload, the
14 fiscal year 2016 National Defense Authorization Act
15 authorized a cost estimating and program evaluation office
16 to provide an independent review on programs and their cost
17 estimates. I am interested in hearing if this office is
18 being funded and staffed appropriately.

19 Secretary Perry, your Department recently revised the
20 environmental cleanup liability of former atomic weapons
21 production sites from an estimated \$163 billion to \$377
22 billion, a jump of \$244 billion over the next 30 years. I
23 would note, for example, at the Hanford Washington
24 Reservation, there are approximately 55 million gallons of
25 radioactive liquid sludge in 177 underground storage tanks,

1 some of which are leaking. I would like to know why the
2 cost of cleanup has grown so much. In addition, I would
3 like to understand why it is taking so long to clean out the
4 Hanford underground tanks while the Savannah River site
5 cleanup of underground storage tanks is well on its way.

6 On a final point, Secretary Perry, proposals to sell
7 U.S. nuclear technology to Saudi Arabia have generated
8 significant interest and could have broader repercussions
9 for the Middle East and global nonproliferation efforts.

10 In May of last year, Saudi Crown Prince Mohammed bin
11 Salman state that if Iran developed a nuclear bomb, we will
12 follow suit as soon as possible. That statement, combined
13 with apparent Saudi insistence on the right to produce
14 fissile material, whether it be enriched uranium or
15 plutonium, requires that we carefully evaluate whether we
16 could unintentionally encourage a nuclear arms race in the
17 Middle East by selling Saudi Arabia nuclear reactors and
18 associated technology.

19 Since the passage of the 1954 Atomic Energy Act, the
20 United States has promoted the peaceful use of atomic
21 energy. Section 123 of the Atomic Energy Act requires the
22 United States and any country seeking a transfer of nuclear
23 technology to sign a nonproliferation agreement that is
24 reviewed by Congress. Part 57b of the Atomic Energy Act
25 requires that you, Mr. Secretary, review any transfer of

1 technology that could lead to the production of special
2 nuclear material outside the United States. Clearly the
3 intent of Congress for over 70 years has been to balance the
4 peaceful use of atomic energy against the possibility it
5 might be used to make a nuclear weapon. So we have serious
6 questions in this regard, Mr. Secretary, and I hope you will
7 respond to them. We would appreciate your update on this
8 issue and many more.

9 Again, let me thank both of you for appearing here
10 today.

11 Thank you, Mr. Chairman.

12 Chairman Inhofe: Thank you, Senator Reed.

13 Both of you know what is going on here, what we want to
14 get to. And so what we are going to do is start with your
15 opening statements, and we would like to have you confine
16 that to around 5 minutes because we have a good attendance
17 up here. We are going to get all of our questions asked.
18 And we will start with you, Secretary Perry.

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1 STATEMENT OF HON. J. RICHARD PERRY, SECRETARY OF
2 ENERGY

3 Secretary Perry: Chairman Inhofe, thank you very much
4 for the invitation, and to Ranking Member Reed, it is good
5 to be in your presence and thanks for allowing us to come
6 earlier in the year to sit down with you and your staffs to
7 discuss before we came here. The other members, it is a
8 privilege to be with each of you, and a number of you who
9 have served as governors, it has been a great privilege to
10 share that executive spirit with each of you.

11 So my work today and discussing the President's fiscal
12 year 2020 budget for the Department of Energy -- and I just
13 want to say it continues to be a great privilege for me.
14 Many of you have this before, particularly those governors
15 in the audience there, that this is the coolest job I have
16 ever had before. It is not the best job I ever had before,
17 but it is the coolest job.

18 I am pleased to be joined with the Under Secretary of
19 the Nuclear Security and NNSA Administrator, Lisa Gordon-
20 Hagerty. Each of you have had the opportunity to work with
21 her, and you know the incredibly high quality intellect and
22 experienced individual that we have running that side of the
23 shop.

24 I am blessed to get to have a front row seat, if you
25 will, and some of the most remarkable innovations that are

1 bringing us energy independence, greater prosperity, a more
2 robust national security position.

3 The Department's overall budget request of \$31.7
4 billion is designed to further our progress by providing
5 funding for the National Nuclear Security Administration.
6 It directly supports our national security. By funding our
7 Office of Environmental Management, it helps us clean up the
8 environmental legacy of the effort dating to the Manhattan
9 Project, and this budget request seeks to build upon the
10 progress we made in both of those areas, both NNSA and the
11 EM, over the last year.

12 Thanks to NNSA's diligent efforts, along with
13 congressional support, I, along with the Secretary of
14 Defense, was able to certify to the President once again the
15 reliability of our nuclear weapons stockpile as we extended
16 the service life of a key warhead by 30-plus years by
17 completing the W76-1 life extension program in December of
18 last year.

19 And we continue our regular safe and reliable nuclear
20 propulsion and naval fleet support, while contributing
21 expertise to the U.S. Navy's new Columbia class program,
22 ensuring sea-based deterrent capabilities for decades to
23 come.

24 We are also seeking to replace our aging nuclear
25 security infrastructure. You made mention of that, both

1 Senator Reed and you, Mr. Chairman, much of it that is older
2 than I am. And so that is getting a little age on it since
3 even before the 1950s.

4 Behind all of this is a bedrock belief that we continue
5 to embrace at DOE. Given the rising threats to our nation
6 and the world from both state and non-state actors, we must
7 maintain our nuclear deterrent. Ultimately, we would like
8 to eliminate nuclear weapons from the face of the earth, but
9 until that becomes feasible, we must continue to pursue
10 through strength that peace that we all desire by keeping
11 nuclear weapons out of the wrong hands, supporting
12 nonproliferation efforts. And so through NNSA, we seek to
13 minimize the number of states that possess nuclear weapons,
14 deny nuclear access to terrorists, control weapons usable
15 material, related technology and expertise, and to help
16 ensure arms control agreements can be verified and enforced.
17 As I have said many times, we have a moral obligation to
18 defend our country by strengthening our nuclear deterrent.

19 But we have an equal duty to address the environmental
20 legacy left at the sites that produced the materials that
21 helped defeat tyranny and secure peace. And that is exactly
22 why the EM program, which marks its 30th anniversary this
23 year, exists. To date, EM has completed cleanup activities
24 at 91 sites in 30 States and the Commonwealth of Puerto
25 Rico. The 16 EM sites in 11 States that remain are home to

1 some of the nation's toughest and most complex cleanup
2 challenges. Recently we made significant progress from
3 coast to coast from the Hanford site, Jack, that you
4 mentioned, in Washington to the separations process research
5 unit in New York. We are working to ensure that EM is
6 prepared to safely and effectively tackle these challenges
7 in a sustainable manner going forward.

8 In conclusion, this budget represents a commitment from
9 all of us at the Department of Energy to serve the American
10 people with stewardship, accountability, and service. In
11 partnership with our national labs, we will continue to
12 support the world class scientists and engineers who ignite
13 America's ingenuity and drive our competitiveness.

14 I look forward to working with each of you, your
15 colleagues, and your excellent staff in the weeks and months
16 ahead on these important funding details.

17 So thank you, Mr. Chairman, and with that I will
18 attempt to answer any questions you have.

19 [The prepared statement of Secretary Perry and Ms.
20 Gordon-Hagerty follows:]

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1 Chairman Inhofe: Well, thank you very much. Excellent
2 statement.

3 And Secretary Gordon-Hagerty, we are very pleased to
4 have you here, and please proceed with your opening
5 statement.

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1 STATEMENT OF HON. LISA E. GORDON-HAGERTY, UNDER
2 SECRETARY OF ENERGY FOR NUCLEAR SECURITY AND ADMINISTRATOR,
3 NATIONAL NUCLEAR SECURITY ADMINISTRATION

4 Ms. Gordon-Hagerty: Good morning, Chairman Inhofe and
5 Ranking Member Reed. I have no opening statement this
6 morning. I defer to Secretary Perry. Thank you.

7 Chairman Inhofe: Okay. What I want to do is get into
8 a couple of the things just to kind of set them out because
9 I know they are going to be covered by questions, general
10 questions.

11 Last year, the NNSA proposed to repurpose the half-
12 built MOX building. And of course, that has been the main
13 discussion for a long period of time and an area of
14 confusion. That is the one that is located in South
15 Carolina to produce plutonium pits. Los Alamos National Lab
16 would still operate the current facility in New Mexico
17 producing 30 pits a year while South Carolina I think would
18 be in the neighborhood of some 50 more to meet the STRATCOM
19 requirement which is for 80 by what year? 2030.

20 So, Secretary Perry, why do you not explain why the
21 Department chose last year to construct a plutonium pit
22 production facility in South Carolina and what advantages
23 would this option bring in addition to the current smaller
24 capability in Los Alamos?

25 Secretary Perry: Mr. Chairman, I think for so many

1 years, as you know as well as anyone in this room, the
2 challenge that we have had with the mixed oxide facility in
3 South Carolina -- I do not want to relitigate that at all.
4 What I would like to do is say thank you to the members who
5 agreed that this was not a program that needed to go
6 forward, and you had the courage to work with us and others
7 to terminate that and then to transition that facility.

8 Chairman Inhofe: Yes, because you are talking about a
9 very large investment that we have had in the past. And we
10 are interested in seeing what is the most we can get out of
11 it now.

12 Secretary Perry: Yes, sir. And I think we are on a
13 track what will take us to a reasonable development there.

14 Los Alamos is and, as Senator Heinrich knows, will
15 always be the center for pit production, the center of
16 excellence in the world for plutonium pit production. Pits
17 0 through 30 will be done there. There is an additional \$5
18 billion that is headed towards that facility in Los Alamos.
19 It will be a substantial buildup. They are going to
20 continue to play, I will suggest, the lead role in the
21 immediate out-years. As you mentioned, Mr. Chairman, by
22 2030, there will be the requirement to do 50 pits. And the
23 decision was investigated, decision made that you could
24 bifurcate that effort with the continual focus on Los Alamos
25 and have pits 31 through 80 be done at the Savannah River

1 site. We can discuss further about that decision-making,
2 but both the DOD, those in the nuclear weapons world agree
3 that that is a legitimate, thoughtful way to go forward with
4 the pit production.

5 So there are some other potentials at Savannah River,
6 but the main legacy program that would come out of the
7 repurposing of the MOX facility will be the development of
8 those pits 31 through 80 at Savannah River.

9 Chairman Inhofe: I understand that, and I appreciate
10 that very much.

11 Secretary Gordon-Hagerty, there are a lot of people
12 speculating that we may not be able to reach those goals.
13 In fact, in NNSA's own analysis, it suggests that reaching
14 the 80 by 2030 is going to be a problem. So no matter what
15 the location of the production, how do you plan to mitigate
16 in the event we do not make it?

17 Ms. Gordon-Hagerty: Thank you, Mr. Chairman.

18 And as the Secretary said, this is going to be a
19 challenging undertaking for the NNSA and for our entire
20 nuclear security enterprise. When the Nuclear Weapons
21 Council determined that based on STRATCOM requirements, that
22 we needed to produce not less than 80 plutonium pits per
23 year by 2030, it was a challenge. I need not remind members
24 of this committee that the United States has not had a
25 plutonium pit production capability since the early 1990s,

1 and it is well past time that we provide a resilient
2 infrastructure for our nuclear weapon deterrent. And the
3 focus of that is on plutonium pit production now and in the
4 future. In order to do that, we believed that a two-pronged
5 strategy is the most affordable and optimal way to get to
6 the 80 pits per year by 2030. And again, it is not less
7 than 80 pits.

8 So we have a lot of challenges ahead of us. We believe
9 that our two-pronged approach where we are undertaking the
10 investments, the significant investments, as the Secretary
11 stated, at Los Alamos which will provide several hundred
12 million dollars over several years in order to increase the
13 production capacity, as well as the infrastructure necessary
14 at Los Alamos, as well as the facility at South Carolina.
15 We are making significant investments in that to undertake
16 the preconceptual design, and we are seeking \$410 million to
17 continue that repurposing of the facility at South Carolina.

18 Chairman Inhofe: My time has expired, and I want to
19 make sure that we get everyone here.

20 But let us do this for the record. When we see a
21 staggering figure like \$677 billion, referring to the
22 Hanford site, that does not seem achievable to me. And
23 right now, we are in the middle of a budget, and that is
24 overwhelming.

25 So I would like for the record for each one of you to

1 spend some time to analyze how that can be diminished. I am
2 talking about using grout instead of glass or any number of
3 things. For the record, not at this time. Thank you very
4 much.

5 [The information referred to follows:]

6 [COMMITTEE INSERT]

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1 Chairman Inhofe: Senator Reed?

2 Senator Reed: Well, thank you very much, Mr. Chairman.

3 Administrator Gordon-Hagerty, as I mentioned in my
4 opening remarks, you have undertaken the overhaul of at
5 least five weapons systems. You are building two
6 multibillion nuclear facilities, uranium and plutonium. You
7 are employing and performing inspections of the deployed
8 stockpile with a federal workforce of about 1,700 people.
9 Are you at all concerned about too much work and too little
10 capacity?

11 Ms. Gordon-Hagerty: Thank you, Senator Reed.

12 As I mentioned previously, this is a challenge ahead of
13 us, but we are taking on this challenge throughout our
14 entire 44,000-person workforce throughout our entire nuclear
15 security enterprise. We recognize the challenges ahead of
16 us. When we talk about pit production, that is only 11
17 years away. This a major challenge. We have five
18 modernization programs, as you stated today.

19 We also have challenges with hiring workforce. Right
20 now, in the next 5 years, we are expecting 40 percent of our
21 workforce to be retirement eligible.

22 So we have got a number of challenges ahead of us, but
23 I believe we can -- with the robust staffing plan and robust
24 funding that we are seeking from Congress, I believe we can
25 get through the systems and continue to be on time and on

1 budget, which we are finding we are in right now, in
2 alignment with the Department of Defense.

3 Senator Reed: Can I ask very quickly, what is the
4 biggest risk? Is it the pit production at Los Alamos?

5 Ms. Gordon-Hagerty: The biggest risk right now is
6 sustained and supported funding to recapitalize and
7 modernize our infrastructure. But in terms of programs,
8 yes, it is plutonium pit production, but we have our eye on
9 that, and we are focused specifically on plutonium pit
10 production.

11 Senator Reed: And the first critical point is 30 pits
12 by 2026.

13 Ms. Gordon-Hagerty: Correct.

14 Senator Reed: And one of the concerns I will put on
15 the table is that as we start to build up the facility in
16 South Carolina, there will be at least a temptation to pull
17 resources out of Los Alamos at a time when that is a
18 critical -- the first critical action will be made there.
19 If we cannot get those 30 pits by 2026, then we have a
20 serious nuclear security problem.

21 Ms. Gordon-Hagerty: I absolutely agree with you,
22 Senator Reed. One of our challenges, however, is to put
23 together what we call integrated product teams in an
24 implementation strategy across our entire enterprise. So
25 this does not just involve South Carolina and the facility

1 we are repurposing there, as well as Los Alamos, but it also
2 affects all of our other parts of our enterprise whether it
3 is Y-12 for sub assemblies or the actual production complex
4 at Pantex in Amarillo, Texas. So we are working across our
5 entire enterprise as an integrated approach.

6 Senator Reed: Thank you.

7 Mr. Secretary, I mentioned in my opening comments the
8 ongoing negotiations with Saudi Arabia. Saudi Arabia is a
9 non-nuclear weapons state under the Non-Proliferation
10 Treaty. That is correct. Is it not?

11 Secretary Perry: That is correct.

12 Senator Reed: And does it concern you that the Crown
13 Prince has made statements that they are prepared to obtain
14 an atomic weapon if Iran particularly gets one? That would
15 violate their standing under the Non-Proliferation Treaty.

16 Secretary Perry: I share your concern with any world
17 leader that we are doing or we are not doing business with,
18 for that matter, that would say that their intention was to
19 do that.

20 Senator Reed: And part of the negotiation involves
21 ensuring that they are not able to enrich fissile material
22 or keep fissile material. And that seems to be a non-
23 waivable condition in any arrangement. Is that correct?

24 Secretary Perry: That is correct.

25 Senator Reed: And just for further depth, we have an

1 arrangement with the United Arab Emirates. They have,
2 indeed, agreed not to enrich nuclear materials. Is that
3 accurate?

4 Secretary Perry: That is correct.

5 Senator Reed: And there is a fear that if we did not
6 have the same arrangement with the Saudis, that the UAE
7 might feel that they are unconstrained. Is that a concern
8 that you have?

9 Secretary Perry: I think you would be correct in that
10 analysis.

11 Senator Reed: Thank you very much.

12 And then just quickly following up, the chairman made
13 the comments about the significant increase in cost, as I
14 mentioned, Hanford particularly. We have a problem and we
15 have a huge increase in resources we have to devote to it.
16 So I would concur with the chairman's request that you
17 provide us more information and more details as we go
18 forward.

19 Secretary Perry: Coming your way.

20 Senator Reed: Thank you very much, Mr. Secretary.

21 Thank you, Mr. Chairman.

22 Chairman Inhofe: Thank you, Senator Reed.

23 Senator Fischer?

24 Senator Fischer: Thank you, Mr. Chairman.

25 Administrator, I am trying to take stock of the

1 progress that we have made in achieving the goals that were
2 laid out in the New START treaty's ratification, and the
3 Nuclear Posture Review makes the point that despite a
4 longstanding goal and one that was particularly reinforced
5 during the debate on the New START treaty, quote, the United
6 States has fallen short in sustaining the modern
7 infrastructure that is resilient and has the capacity to
8 respond to unforeseen developments.

9 That treaty was signed in 2010, and since that time, we
10 expected a pit production facility to be completed by 2023
11 and work is just now beginning with the optimistic target, I
12 believe, of reaching full capacity at 2030.

13 After years of delay, the uranium production facility
14 is moving forward, but its scope is reduced to one-third of
15 its original capacity, and several warhead life extension
16 programs were delayed. Revised schedules appear to be
17 holding, but the stockpile is older than anticipated.

18 In my view, we have got a lot of work ahead of us if we
19 are going to achieve the vision that was articulated in 2010
20 and really be able to attain a responsive nuclear complex.

21 Would you agree with that?

22 Ms. Gordon-Hagerty: Absolutely.

23 Senator Fischer: Do you see us moving in that
24 direction, a more positive direction, at this point?

25 Ms. Gordon-Hagerty: I do, Senator Fischer. I believe

1 that our entire complex has our eye on our goal, and the
2 goal is to continue to modernize our five nuclear weapon
3 systems that we are currently undertaking. I am happy to
4 say that they are all on schedule and all on budget.

5 However, a minor slip in any of those could cause a rippling
6 effect across all of the different modernization programs.

7 With regard to UPF, the facility to which you alluded,
8 our uranium processing facility, to date we have spent \$2.5
9 billion in construction activities. This year, we have
10 undertaken the actual construction of the main processing
11 building. That building will cost \$6.5 billion and be
12 completed by 2025. And again, I am glad to say that we are
13 on schedule and on cost for that.

14 Senator Fischer: Thank you.

15 You and I -- we talked a lot about pit production, and
16 the two questions previous to mine dealt with some pit
17 production issues as well. NNSA's goal has been to be able
18 to produce those 80 plutonium pits per year 2030. And I
19 know that you do have a strategy to accomplish this and you
20 are pursuing it.

21 But it is my understanding that as a result of the
22 years of delay that this effort has faced, I guess you could
23 say plans are extremely fragile at this point, and achieving
24 this goal is going to be challenging for you. I am pleased
25 you are focused on it.

1 But my question is, to what extent has NNSA thought
2 about any contingencies or any supplemental plans should it
3 face delays or any kind of disruption to your current
4 strategy that you hold?

5 Ms. Gordon-Hagerty: We have a number of different
6 options available to us. We are, obviously, focused on the
7 most optimal, which is to go with the two-pronged strategy
8 for pit production, which will be, as the Secretary said,
9 Los Alamos producing pits 1 through 30, and as we repurpose
10 the former MOX facility in South Carolina, that we will look
11 to have an aggressive plan for that.

12 One of the historical notes about NNSA is that I like
13 to say we used to do things in serial. Well, now we are
14 doing things in parallel. We have a lot of work on our
15 plate, but I am absolutely confident in the men and women of
16 the NNSA enterprise that we can get this done. We have no
17 further time to delay.

18 In addition to everything else we are doing, we have a
19 massive infrastructure and recapitalization program. As the
20 chairman mentioned, more than 30 percent of our facilities
21 were built during the Manhattan Project, and it is long time
22 past that we do something to modernize our infrastructure
23 and give the tools to our workforce that are necessary to
24 maintain our nuclear deterrent.

25 Senator Fischer: And I know you are trying to do

1 things in parallel and not step by step, but as you view
2 your next major strategic materials challenge, what comes
3 after the plutonium pit production for you?

4 Ms. Gordon-Hagerty: High explosives.

5 Senator Fischer: Thank you very much.

6 Chairman Inhofe: Thank you, Senator Fischer.

7 Senator Kaine?

8 Senator Kaine: Thank you, Mr. Chair.

9 And thanks to the witnesses for your service and
10 testimony.

11 Secretary Perry, Reuters broke a story last night,
12 "U.S. Approves Secret Nuclear Power Work for Saudi Arabia."
13 Just to read the opening paragraph, U.S. Energy Secretary
14 Rick Perry has approved six secret authorizations by
15 companies to sell nuclear power technology and assistance to
16 Saudi Arabia, according to a copy of a document seen by
17 Reuters on Wednesday.

18 Is the story accurate?

19 Secretary Perry: Senator, as you probably know, as
20 well as any of us, from time to time, the media may get a
21 story wrong.

22 Senator Kaine: That is why I asked.

23 Secretary Perry: And it is always good to hear in the
24 public, and I hope that there is some good reporting going
25 to be going on about this conversation you and I are about

1 to have relative to that because it is important to have a
2 little understanding of the history of the Part A-10.

3 Senator Kaine: Part A-10. These are Part A-10
4 authorizations that we are talking about. Correct?

5 Secretary Perry: That is correct. And these go all
6 the way back to the 1970s, about the same time that the
7 Department of Energy was created in 1977.

8 And frankly, I think the word "secret" is what gets
9 everybody spun up when they see the word "secret" in there.
10 And what we are talking about here is something that goes on
11 every day in this town and across the country.

12 Senator Kaine: But if I can lead the witness a little
13 bit, I do understand these Part A-10 authorizations are
14 common. They have happened for a long time. The Reuters
15 story suggests, though, that in the past, Part A-10
16 authorizations have been publicly available to be reviewed
17 at the Department of Energy office, but in this case, these
18 six authorizations have not been subject to any review by
19 the public.

20 Secretary Perry: Here is what I will suggest to you,
21 is that the proprietary information that these companies,
22 these U.S. companies, that are going to be doing this work
23 want to keep that proprietary information from being out in
24 the public domain. I totally understand that. When we were
25 governors, our business model from time to time -- well, not

1 from time to time, generally speaking, they were not
2 interested in putting out and having their competitors look
3 at it.

4 Senator Kaine: And let me not ask anything about any
5 proprietary information. I do not want to do that.

6 But is it accurate, though, that six Part A-10
7 authorizations have been issued to American companies to do
8 this prep work for a potential nuclear power deal with Saudi
9 Arabia?

10 Secretary Perry: Well, since January of 2017, here is
11 what I think is really pretty important from my perspective.

12 Senator Kaine: How about just really quick. Is it
13 true that six Part A-10 authorizations have been issued to
14 companies --

15 Secretary Perry: Here is what is true. Since 2017,
16 there have been 65 applications for Part A-10's, and we have
17 issued 37 of them, with nine of them to the Middle East.

18 Senator Kaine: Okay, and six to Saudi Arabia?

19 Secretary Perry: That is correct, and two to Jordan.

20 Senator Kaine: When was the last one issued? Give me
21 the date. You said since 2017. When was the last one done
22 to Saudi Arabia?

23 Secretary Perry: Let me get back with you on that.

24 Senator Kaine: Do you know whether or not it was done
25 before or after October 2, 2018?

1 Secretary Perry: I do not. I do not want to give you
2 a date specific.

3 Senator Kaine: That was a date that a constituent of
4 mine, a Virginia resident, was murdered, Jamal Khashoggi, by
5 the Saudi Government in a Saudi consulate in Istanbul. And
6 I would be very interested to see whether the U.S. was
7 signing deals, Part A-10 authorizations, to enable nuclear
8 work for Saudi Arabia after that date.

9 Secretary Perry: We will get you that specific date.

10 Senator Kaine: And we will ask that for the record,
11 the record of all six of the authorizations.

12 [The information referred to follows:]

13 [COMMITTEE INSERT]

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1 Senator Kaine: Let me switch topics quickly.

2 The Department of the Navy is recommending that the USS
3 Harry S. Truman be decommissioned rather than overhauled in
4 the next few years. I serve on the Seapower Subcommittee of
5 this committee. We had a hearing about this yesterday.

6 Has the Department of Energy been given any direction
7 to fund or plan for the decommissioning of the Truman?

8 Secretary Perry: Let me let the Administrator have a
9 bite at that.

10 Senator Kaine: Indeed.

11 Ms. Gordon-Hagerty: What I could say, Senator Kaine,
12 is that obviously part of that comes under the Office of
13 Naval Reactors, which falls under NNSA. I can get back to
14 you on that information to let you know specifically what we
15 are providing.

16 Senator Kaine: That would be helpful. It would not be
17 surprising I think. There is just a little bit of an effect
18 in the SASC budget this year on it, and it may be that the
19 DOE portion of it would be downstream from fiscal year 2020.
20 But I am just curious to see whether there has been any
21 instruction given to DOE about potential decommissioning.
22 If so, what effect would that have on the budget? I will
23 ask that question for the record.

24 Ms. Gordon-Hagerty: Thank you.

25 Senator Kaine: Thank you, Mr. Chair.

1 Chairman Inhofe: Thank you, Senator Kaine.

2 Senator Scott?

3 Senator Scott: Secretary Perry and Under Secretary
4 Gordon-Hagerty, thank you for being here and thank you for
5 your hard work. I know it is a lot of work to get done,
6 what everyone expects you to do.

7 I want to thank Secretary Perry for not running for
8 reelection in 2014. I was never able to beat you in job
9 creation in my first 4 years as Governor, but your departure
10 was welcomed and we were able to beat you for quite a bit.
11 I hope you appreciated those phone calls every month when I
12 let you know how we were doing.

13 Secretary Perry, the National Defense Strategy focused
14 on our national security efforts, more on the threats of
15 China and Russia. How does the National Nuclear Security
16 Administration's -- how do you address these threats through
17 your mission and programs?

18 Secretary Perry: Senator, thank you.

19 The NNSA, as I said in my opening remarks, keeping our
20 nuclear deterrent at a position that clearly modernizes it,
21 clearly sends the message that the United States is going to
22 defend itself against any threats. That is one aspect of
23 what the Department is involved with.

24 I will suggest to you an equally important part of this
25 is through some of the work that goes on at our national

1 labs in the super computing side of things. The ability to
2 protect the grid against any attacks that could come from a
3 cyber standpoint -- statutorily the Department of Energy is
4 the sector-specific agency that deals with that. So the
5 Idaho National Lab and the grid, the test grid, that they
6 have there is a great example of that. Our super computing
7 en route to exoscale computing, the first exoscale machine
8 will be at the Argonne Laboratory, up and running by 2021.
9 And then we have the number one, number two fastest
10 computers in the world, most powerful computers in the world
11 today at Oak Ridge in Tennessee and at Lawrence Livermore.
12 When that Argonne facility in Chicago comes up -- its name
13 is Aurora -- then we will be at the exoscale level. Senator
14 Cotton, you know the importance from a cryptology
15 standpoint, the ability for us to use our super computing
16 capacity and abilities.

17 So I will suggest to you those are two of the things,
18 Senator Scott, that DOE is directly involved with. What
19 Lisa has over on her side of the house is the single most
20 important part of our deterrent, but also our ability to
21 serve multiple agencies of government, whether it is the
22 DOD, whether it is the Secretary of State, whether it is the
23 other three letter agencies of government, with our
24 cryptology, with our ability of using the super computers
25 that the Department operate in that National Security

1 Council environment, DOE plays a monumental role in the
2 acquisition, interpretation, and other engagements that are
3 very important to sending the message to those who would not
4 necessarily have America's best interests in mind, that we
5 are prepared, we are substantially engaged, and we have both
6 offensive and defensive capabilities to keep this country
7 free and secure.

8 Senator Scott: Thank you.

9 The budget that you propose -- is that sufficient for
10 you to meet your needs?

11 Secretary Perry: Yes.

12 Senator Scott: Thank you.

13 Thank you, Mr. Chairman.

14 Chairman Inhofe: Thank you, Senator Scott.

15 Senator Heinrich?

16 Senator Heinrich: Thank you, Chairman.

17 Secretary, I would like to ask you about the role of
18 the Defense Nuclear Facility Safety Board. And I have to
19 say that I am hearing from communities in New Mexico that
20 DOE's unilateral revision of Order 140.1 will significantly
21 affect the board's ability to meet its statutory oversight
22 responsibilities at NNSA and the EM facilities, including
23 obviously the three in New Mexico.

24 In light of this new order, talk to me about how you
25 can assure me of your commitment to preserving both the

1 board's oversight responsibility but, more importantly, to
2 ensure public health and safety for workers and for local
3 communities around the complex.

4 Secretary Perry: Senator Heinrich, thank you.

5 I do not think there is a more important relationship
6 between the Department of Energy than through the labs,
7 through the contractors with the local communities. And I
8 will say having the great privilege over the last year, I
9 think last fall I visited the 17th of the 17 labs and to be
10 in those communities to see the great support that comes
11 from the communities to the labs -- and it is one of our
12 goals to make sure that that is the case, recognizing the
13 highly technical work and sometimes the contentious public
14 issues that come out of whether it is on the weapons side or
15 what have you --

16 Senator Heinrich: Why change the order when you had
17 built up all that credibility with the local communities?

18 Secretary Perry: I do not think we have. You know,
19 there may be certain individuals who think that we like to
20 do it the way that we have always done it. What I have
21 always found was that anytime you kind of make a change in
22 the way things have historically run, somebody is going to
23 go, wait a minute, I am losing some of my authority, I am
24 losing some of my what have you.

25 But what I would like to do is I would like to get Lisa

1 to weigh in here as well and share with you her aspect of
2 it.

3 But I think it is very healthy to have conversations
4 about here is why we are going to change this and have that
5 public input. And I think we are having that. I think we
6 are having some good back and forth on this and find a
7 reasonable solution.

8 But if I may, Senator, can I ask Lisa to --

9 Ms. Gordon-Hagerty: Good morning, Senator.

10 Senator Heinrich: Good morning.

11 Ms. Gordon-Hagerty: First of all, let me say that the
12 DOE order is just updating a 17-year-old order that is,
13 quite frankly, antiquated. What it does is it more clearly
14 defines the roles and responsibilities of the Department of
15 Energy where it is related to the independent oversight of
16 the Defense Nuclear Facility Safety Board. We enjoy a very
17 strong and solid relationship and continue to have one with
18 the DNFSB, and we continue to interact with them.

19 However, we do need to clearly define and redefine the
20 responsibilities of Department of Energy because if in fact
21 health and safety situations do occur, the roles and
22 responsibilities and the accountability rests solely with
23 the Department of Energy and NNSA and not with the Defense
24 Board. So that is what we are looking at.

25 Senator Heinrich: Administrator, I do not want to cut

1 you off, but I am really getting short on time here. So I
2 do want to pivot real quickly and ask the Secretary one more
3 quick question, which is, Secretary, you mentioned the
4 Manhattan Project, which is something we are incredibly
5 proud of in New Mexico and the role that we played in it.
6 But 75 years later, we still have not cleaned up all the
7 waste. And so once again this year, in the proposed budget,
8 there is a \$25 million cut to that cleanup. Why cut cleanup
9 at Los Alamos?

10 Secretary Perry: Senator, I will share with you that
11 some of the reductions on the EM side is because we have
12 successfully been able to make some cleanups and finish
13 those and transitioning over to some others.

14 Senator Heinrich: That is not the case here, though,
15 because the more we stretch this out, I mean, we could be
16 there for another 20 years or we could be there for a much
17 shorter period of time. So I just want you to know that I
18 will work with Senator Udall to, once again, restore that
19 funding like we did last year. But we are making good
20 progress. We have a new contractor on board. This is an
21 opportunity to show to the State, to whom commitments have
22 been made, that we are going to keep those commitments. So
23 I would just urge you to look at that.

24 Secretary Perry: We will, sir.

25 Chairman Inhofe: Thank you, Senator Heinrich.

1 Senator Cramer?

2 Senator Cramer: Thank you, Mr. Chairman.

3 And thank you, Secretary Perry and Secretary Gordon-
4 Hagerty, for being with us today and, of course, for your
5 ongoing access. It is really very helpful.

6 If there is time at the end, I will maybe get into some
7 plutonium pit production questions, but it sounds like we
8 have covered it pretty effectively.

9 So let me focus, first of all, on something that is
10 very important specifically to my home State of North
11 Dakota, and that is warhead modernization efforts.

12 Obviously, it is important to us in Minot. Our B-52's, of
13 course, carry the long-range standoff weapons, and then of
14 course, the ICBMs and whatever might replace them. They are
15 both hosted at Minot. They really are depending on getting
16 the new warheads on schedule so that we can continue to
17 provide the strategic deterrence that our country and our
18 allies need and depend on.

19 So let me just put it real straightforward. I am going
20 to maybe ask three questions in one, Secretary Gordon-
21 Hagerty, and then you can answer all of them probably in one
22 breath.

23 If you were forced to delay, for example, the W84, what
24 would the impact of the program be -- on the program be?
25 Would it introduce challenges to integration with the LRSO?

1 And then likewise, would there be similar concerns with a
2 delay in the W87-1 as it relates to our Minuteman III's and
3 future ground-based systems? I will just open the door for
4 you to walk through that and answer.

5 Ms. Gordon-Hagerty: Certainly. Thank you, Senator
6 Cramer.

7 Yes, obviously, our programs are all -- all five of our
8 modernization programs are currently on cost and on
9 schedule, and they are completely aligned with our customer,
10 the Department of Defense. If we see any slippage
11 whatsoever in any of our programs, that could obviously
12 affect or impact and will impact the LRSO or the GBSD
13 programs -- excuse me -- the W80-4 or the 78 replacement
14 programs. Again, we are thoroughly aligned with the Air
15 Force right now and with the Department of Defense. So we
16 need the additional funding, the resources necessary to
17 continue those programs so they are on schedule, on budget
18 so we can deliver them on time to the Department of Defense.

19 Senator Cramer: Any chance of doing it faster than
20 that?

21 Ms. Gordon-Hagerty: We have our challenges, and of
22 course, as Senator Reed had said, we are busier than we have
23 been the 1980s. We are working every possible way to slim
24 up the margins to do whatever we can to move faster,
25 quicker, and speedier, as General Hyten often likes to say.

1 But we are thoroughly aligned with the Air Force, and where
2 we can make commitments to improve those processes and those
3 timelines, we will do so. But we are working as closely as
4 we can with the Air Force to make sure that we can deliver
5 on our commitments.

6 Senator Cramer: Secretary Perry, anything you would
7 want to add to that?

8 Secretary Perry: Well, I will just say that they
9 restarted phase 6, which activates the W87-1 modification
10 program. That obviously supports the ground-based strategic
11 deterrent.

12 Again, I am comfortable that the funding stream is
13 appropriate.

14 Here is my concern, is if the Department gets tasked
15 with some other areas -- and I will make reference to what
16 is going on in North Korea. And knock on wood, if that goes
17 forward and we get tasked with verification issues and what
18 have you, DOE would play a very, very leading role in a
19 verification of the weapons that are there and then the
20 obvious next steps past that. Were that to be the case,
21 then I would remind this committee that the funding that
22 would be required for DOE to take those additional duties on
23 would be substantial, and at that particular point in time,
24 Administrator Gordon-Hagerty's job becomes incredibly
25 challenging. I got total faith that she can keep a lot of

1 balls in the air at one time, but just looking out over the
2 horizon, sir, and saying here is what you need to be
3 prepared for, something coming out of left field that you
4 may not have had in your line item that was not funded for,
5 that is one that I think, Mr. Chairman, we need to kind of
6 just keep in the back of our mind. If this goes forward,
7 the DOE's requirement will be substantial, incredibly
8 important, and it could affect our other programs as we are
9 trying to get those addressed as well.

10 Senator Cramer: Secretary Perry, thank you for that
11 observation and for that warning because would we not all
12 love to be able to have too much to do with regard to the
13 Korean Peninsula?

14 Secretary Perry: It would be a good problem to have.

15 Senator Cramer: It sure would. But I, like you, am
16 confident that Secretary Gordon-Hagerty is capable of a lot
17 of multi-tasking. That has been my observation. I thank
18 you both for keeping the main thing the main thing. Thank
19 you.

20 Chairman Inhofe: Thank you, Senator Cramer.

21 Senator Blumenthal?

22 Senator Blumenthal: Thanks, Mr. Chairman.

23 Welcome to you both and thank you for your service.

24 I want to ask a question about fuel cells. As you
25 know, they are highly efficient and clean technology that

1 use domestically available resources to advance our security
2 goals and efforts to create a more resilient and reliant
3 source of electricity generation.

4 And in Connecticut, the United States Navy has agreed
5 to install a 7.5 megawatt fuel cell park on the United
6 States submarine base in New London, which is home to about
7 16 fast attack submarines. This move is going to provide a
8 very cost effective source of power to the base that will
9 advance long-term grid independence and power resiliency.
10 And as you know, the solid oxide fuel cell program within
11 the Office of Fossil Energy at the Department of Energy
12 supports the advancement and eventual full scale deployment
13 of fuel cell technologies. The Navy has been a leader in
14 this effort, so has the military in general, using fuel
15 cells as sources of energy in Afghanistan and elsewhere.

16 Could you tell me, Mr. Secretary, what is the status of
17 the solid oxide fuel cell program at the Department of
18 Energy?

19 Secretary Perry: Senator, we have got a lot of
20 different alternative energy programs that we are working
21 on. That is obviously one of them. And both at PNNL and at
22 some of our other labs, we are doing work on the fuel cell
23 side of things.

24 Our advanced -- I will shift gears on you just a little
25 bit, but micro-reactors, another area that held some

1 extraordinary potential for the future. And I think it is
2 one of the reasons that both basic research and applied
3 research --

4 One of the things that we have done over at the
5 Department is we have created a chief commercialization
6 officer to be able to take some of these technologies like
7 you speak about here, be able to take them from their
8 inception and commercialize them. And it is one of the
9 things that I am proud of although we have had discussions
10 in this committee and other committees about budgetary items
11 over at the Department and what the priorities are, but from
12 my historic perspective, one of the great gifts that we have
13 at the Department of Energy is being able to take the
14 research in many areas and commercialize that and make it
15 available to the general public and in many cases,
16 obviously, for our military as well.

17 Senator Blumenthal: Will you commit to spending the
18 full \$30 million that the fiscal year 2019 budget
19 appropriated to fuel cell development, the solid oxide
20 program, for fuel cell development?

21 Secretary Perry: That is our intention, sir.

22 Senator Blumenthal: Coming back to the transfer
23 potentially of nuclear technology to Saudi Arabia, I think
24 Senator Kaine asked you whether any part of the A-10
25 authorizations were signed after October 2, 2018. Would you

1 not know that sitting here now?

2 Secretary Perry: No, sir, I would not. We sign a lot
3 of papers, and I have got a pretty good memory but to
4 remember every date that I sign a piece of paper might be
5 above my ability to recall, sir.

6 Senator Blumenthal: Although that is a pretty
7 significant piece of paper.

8 Secretary Perry: I understand that. But, again,
9 asking me to recall when I signed a particular piece of
10 paper, when I sign literally thousands of pieces of paper,
11 might be just above my ability to recall, sir.

12 So here is what I can share with you. I will get it to
13 you and you will have it post haste, and we can see whether
14 or not it meets the timeline of what you asked.

15 Senator Blumenthal: But you are concerned about the
16 transfer of that technology in light of the Crown Prince's
17 refusal to agree to any prohibitions on enriching uranium or
18 reprocessing of spent fuel.

19 Secretary Perry: What I am concerned about is any
20 country that is going to not go forward with
21 nonproliferation. Here is what I am really concerned about,
22 Senator, is that if the United States is not the partner
23 with Saudi Arabia, for that matter, Jordan, which is the
24 other country that we have signed A-10's with, and they go
25 to Russia and China for their civil nuclear technology,

1 their civil nuclear partners, I can assure you that those
2 two countries do not give a tinker's damn about
3 nonproliferation. That is why we continue to work very,
4 very diligently to try to bring those countries that want to
5 develop civil nuclear programs into the sphere of the United
6 States because we are committed to nonproliferation. We got
7 a history of nonproliferation, and nobody in the world will
8 do it better than us. And it is very, very important for
9 the world, for the Middle East, for the United States to be
10 the partner in as many of these development of civil nuclear
11 energy programs as we can be.

12 Chairman Inhofe: Thank you, Senator Blumenthal.

13 Senator Blumenthal: Thank you.

14 Chairman Inhofe: Senator King?

15 Senator King: Thank you, Mr. Chairman.

16 Madam Secretary, we have been promising the American
17 people for 70 years a solution to the storage problem of
18 high-level nuclear waste. We have not managed it yet.
19 Governor, perhaps you want to take this one. But where are
20 we? This is one of the reservations that people have about
21 the future development of nuclear power is how do we
22 responsibly tell people that we can manage this issue
23 without having what amounts to 100 or more high-level
24 nuclear waste sites scattered all over the country because
25 that is what we have now.

1 Secretary Perry: Senator King, thank you.

2 It does seem to be the issue that has vexed this
3 country for a long time. There are two different issues
4 here, two different problems I guess. There is a technical
5 issue with where are you going to put this high-level waste,
6 and there is a political challenge.

7 Senator King: Which is also radioactive.

8 [Laughter.]

9 Secretary Perry: My role is to find a solution. And
10 we had a conversation yesterday with the Senator
11 appropriators in a public forum about getting together over
12 the course of the next 2 weeks and talk about what some of
13 those options are. If Yucca is not going to be one of the
14 sites, if WIPP, which Senator Heinrich represents, is going
15 to limit, where are the other options? Well, there is a
16 site in far west Texas that has historically been open and
17 supportive of waste coming into that part of the State of
18 Texas. That is an option.

19 Here is what is important. If we are going to find a
20 solution for storage, Congress must act. You are going to
21 have to change the statute. Today the only entity that can
22 take possession of high-level waste is the Department of
23 Energy. If you are going to have an option to that, you are
24 going to have to change the statute. The statute is going
25 to have to allow for private sector entities to be able to

1 take possession of that. For instance, if it were to go to
2 a place like Andrews, Texas waste control specialist, you
3 got to change the law. You got to continue to fund the
4 Nuclear Regulatory Commission to be able to get those
5 licensings processes forward. So you got a real challenge
6 on your hand.

7 But let me leave you with this. If you do not act, by
8 not acting, you are saying that we have permanent high-level
9 waste repositories in the United States and they are in 39
10 of your States.

11 Senator King: Including one in my State of Maine.

12 Secretary Perry: Yes, sir. It is a pretty stunning
13 map to look at, Senator King, when you look at the 39 States
14 that have high-level waste in them. And I will suggest to
15 you we have a moral responsibility to get that waste out of
16 these States, to get it to secure, appropriate sites. That
17 is the map. Every one of those red States has high-level
18 waste. And I do not think that is what the American people
19 want. I do not think what the men and women sitting around
20 your dais today want. But we have some hard decisions to
21 make as a country about are we going to go forward with a
22 high-level waste repository, or are we going to have interim
23 storage? And hopefully the men and women of Congress can
24 deal with this and deal with it in a short period of time.

25 Senator King: I appreciate that, and I appreciate your

1 commitment to continue working on this problem because it
2 not only is a commitment based upon existing sites, as you
3 talked about, but it is impairing the ability to even think
4 about future nuclear development if we cannot tell our
5 citizens that the waste problem has been dealt with.

6 I am running out of time. Madam Secretary, maybe for
7 the record, you could supply for us some thinking about how
8 we deter a nuclear attack by a non-state actor. My concern
9 is that traditional concepts of deterrence work on a nation
10 state, but they do not necessarily work on a group of 30
11 people who are ready to die anyway. Deterrence has been at
12 the core of our nuclear strategy. How do we cope with the
13 idea of a non-state group getting the technology from a
14 rogue regime that has it? And I understand we have got to
15 talk about intelligence. We have got to talk about
16 interdiction. So for the record, my time has expired. If
17 you would supply a page or so on that, that would be
18 helpful.

19 [The information referred to follows:]

20 [COMMITTEE INSERT]

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1 Senator King: Thank you, Mr. Chairman.

2 Chairman Inhofe: Thank you, Senator King.

3 Senator Blackburn?

4 Senator Blackburn: Thank you, Mr. Chairman.

5 And, Secretary Perry, I will begin by saying thank you
6 so much for the attention you have given to Oak Ridge and to
7 Y-12 and being on the ground there. It is noted and it is
8 appreciated. And we hope that you will come back often.
9 Good things are happening there that are important to both
10 our energy and our military, our complex.

11 When we were looking at the Nuclear Posture Review, it
12 was talking about the age of the infrastructure. 40 years
13 old is primarily the age of the infrastructure, a quarter of
14 which dates back to the Manhattan Project. And at Y-12 at
15 that national security complex, in 2014 -- and I know you
16 have visited there -- chunks of concrete weighing up to 20
17 pounds fell from the ceiling of building 9024. And
18 fortunately, no one was injured. It was good timing, if you
19 will, that left workers not being injured, which is
20 fortunate. But that is a building that was built in 1944,
21 still operational today.

22 And then we had noticed in the annual site environment
23 report a statement on this building, building 9024, and I am
24 quoting, that it has degraded to the point that repair is no
25 longer an option. Other deferred maintenance such as

1 inoperable air conditioning equipment causing recurrent lost
2 work days and critical fire and emergency operations crowded
3 into too small facilities that would be rendered
4 inaccessible in critical security events are unacceptable.

5 So you look at this. Should site report on some of our
6 most critical infrastructure and the national security
7 enterprise contain the term "World War II vintage
8 buildings?" And I wish that you would spend a couple of
9 minutes for the benefit of our Tennessee constituents there
10 working at Oak Ridge and at Y-12. Talk a little bit about
11 what is needed with the backlog of maintenance. Have you
12 arrested the growth of deferred maintenance? And just kind
13 of give a little bit of perspective on this. And then if
14 you will refer to what will be your implementation plan and
15 how do you intend to ensure that all of these projects are
16 attended to.

17 Secretary Perry: Senator, thank you very much. Just
18 for the record, will be out at Oak Ridge the first week of
19 May for an ex-lab.

20 Senator Blackburn: And you are going to be welcomed.

21 Secretary Perry: Yes, ma'am.

22 Senator Blackburn: They will look forward to having
23 you there.

24 Secretary Perry: It is a great facility. I hope
25 everyone has the opportunity to go. As a matter of fact,

1 Mr. Chairman, I am remiss in not having tendered an
2 invitation to every member of the committee to come to one
3 of the national labs of their choice, or if we could pick
4 one for them, it would be an extraordinary event for them.
5 So it is the most enlightening, exciting thing I have done
6 to go be engaged in these national labs and none more
7 intriguing, interesting, nor has a greater history than Oak
8 Ridge National Lab, "The Girls of Atomic City," the ladies
9 who helped with the Manhattan Project, a really fascinating
10 book that I know you have.

11 But let me address directly your question about -- in
12 fiscal year 2016 and 2017, NNSA -- they stopped the growth
13 of the deferred maintenance for the first time in nearly a
14 decade. For fiscal year 2019 funding and certainly in this
15 budget, 2020 requested, will help NNSA to begin decreasing
16 the deferred maintenance that you very vividly laid out
17 here. We are committed to implementing the infrastructure
18 modernization initiative as directed in the fiscal year 2018
19 National Defense Authorization Act to reduce NNSA's deferred
20 maintenance backlog by no less than 30 percent by 2025. So
21 I hope there is some --

22 Senator Blackburn: So what I am hearing you say is
23 that NNSA turns the corner on this in 2020.

24 Secretary Perry: Correct.

25 Senator Blackburn: Correct, okay. Thank you.

1 I yield back.

2 Chairman Inhofe: Senator Warren?

3 Senator Warren: Thank you, Mr. Chairman.

4 I want to pick up on a point that Senator Reed raised.
5 Last month, the House Oversight Committee issued a report
6 detailing attempts by the Trump administration officials to
7 fast track the transfer of sensitive American nuclear
8 technology to Saudi Arabia. Now, career ethics officials
9 advised against this transfer, and they said such a
10 transaction would be illegal without review by Congress. We
11 know this happened because whistleblowers came forward to
12 sound the alarm.

13 Secretary Perry, you are referenced nine times in the
14 House Oversight Committee's report, which describes how you
15 and other administration officials pushed the Saudi
16 Government to buy nuclear reactors from American companies,
17 including Westinghouse by name.

18 This is a serious matter, and Congress is right to
19 demand answers here. You lead the Energy Department. So
20 let me ask, how many documents has your Department provided
21 to the House Oversight Committee in response to its
22 investigation into this matter?

23 Secretary Perry: Senator, let me get back with you on
24 the information.

25 Senator Warren: Well, it is a matter actually of

1 public record. The answer is zero. Your Department has
2 produced zero documents to the House Oversight Committee and
3 its investigation.

4 I think the Energy Department should cooperate fully in
5 this investigation. So I have a few more questions about
6 it.

7 Secretary Perry, do you agree that any agreement to
8 transfer our nuclear materials, facilities, or sensitive
9 technology to Saudi Arabia requires congressional review?

10 Secretary Perry: I am going to follow the law,
11 whatever the law may be.

12 Senator Warren: Well, I would like to know that you
13 know what the law is here.

14 Secretary Perry: I am going to follow the law,
15 Senator.

16 Senator Warren: The law is it requires congressional
17 review. Are we clear on that?

18 Secretary Perry: Then I think you and I both agree.

19 Senator Warren: Are you just now learning that that is
20 the law?

21 Secretary Perry: No, ma'am. I am just agreeing with
22 you, Senator.

23 Senator Warren: Okay. So you understand that is the
24 law, that Congress has to approve before the Saudis can get
25 nuclear material.

1 Secretary Perry: Senator, if you have any evidence
2 that the Department of Energy has not followed that, I would
3 be --

4 Senator Warren: I just want to make sure that we are
5 clear going forward here while you are out there pushing
6 this. Under U.S. law, any civilian nuclear cooperation or
7 123 agreement with a foreign country must meet nine specific
8 requirements to ensure that nuclear material cannot be
9 reprocessed or enriched to build a bomb. You seem more
10 focused on pushing the Saudi Government to hire companies
11 like Westinghouse to build reactors than you do on working
12 with Congress to nail down an agreement that will prevent
13 the Saudis from developing a nuclear weapon.

14 At a committee hearing in the House last May, you said
15 that you told the Saudi Crown Prince that if he wants the
16 world's best nuclear reactors, then, quote, you have to use
17 Westinghouse.

18 So let me just make sure we are clear on this.
19 Secretary Perry, do you agree that any agreement to transfer
20 our sensitive nuclear technology to Saudi Arabia should
21 ensure that they cannot use that technology to develop a
22 nuclear weapon no matter which company makes the reactors or
23 how high their profits might be?

24 Secretary Perry: I agree.

25 Senator Warren: Okay, good, because at a minimum, I

1 expect the Trump administration to follow the law when it
2 comes to any potential civilian nuclear cooperation
3 agreement with Saudi Arabia. And any agreement must ensure
4 that there can be no reprocessing or enrichment of nuclear
5 material without our prior approval.

6 But frankly, I think it is a bad idea to even consider
7 transferring our sensitive nuclear technology to the Saudi
8 Government. This is a government that continues to fuel a
9 humanitarian crisis in Yemen. The Saudi Crown Prince
10 ordered the brutal murder of journalist Khashoggi. And the
11 last thing we should be doing is giving the Saudi Government
12 the tools to produce nuclear weapons.

13 Thank you, Mr. Chairman.

14 Chairman Inhofe: Senator Hawley?

15 Senator Hawley: Thank you very much. Thank you, Mr.
16 Chairman.

17 Thank you, Secretary Perry and Under Secretary, for
18 being here.

19 I want to first start off by saying that, of course, we
20 are very proud that in my home State we are proud of the
21 partnership we have with the NNSA, Under Secretary, dating
22 back, of course, to the Second World War, but on display now
23 with the new Kansas City National Security Campus, which we
24 are very, very proud of. It employs over 4,000 people in
25 the State of Missouri, manufactures, assembles, and procures

1 85 percent of the non-nuclear parts of the U.S. nuclear
2 weapons. We are very proud of that. Of course, that is
3 just the tip of the iceberg in terms of the service that
4 that facility renders to the United States.

5 And I thank you for your leadership, both of you, on
6 this and look forward to working together to ensure that
7 that Kansas City campus continues to have what it needs to
8 advance its important mission. So thank you for that.

9 Let me ask you, Under Secretary, talking about research
10 here for a moment. Given the prior administration, the
11 Obama administration's efforts to reduce the nuclear
12 stockpile, constrain research and development for nuclear
13 weapons, do you feel that -- and nuclear components -- do
14 you feel that you have the resources and the authorities
15 that you need in order to carry out the research and
16 development that is important as we make the shifts outlined
17 in the Nuclear Posture Review?

18 Ms. Gordon-Hagerty: Good morning, Senator Hawley. It
19 is nice to hear such complementary words of Kansas City and
20 we do. KCNSC is one of the proud eight locations in the
21 NNSA. So your words resonate with us and with our entire
22 workforce. So thank you.

23 With regard to the nuclear stockpile, our research and
24 development testing, all the programs that we need to
25 underpin our weapons activities, to modernize our nuclear

1 weapons stockpile, I believe that the request that we are
2 making in the fiscal year 2020 budget will certainly support
3 our initiatives going forward. However, we have more
4 priorities than there are resources.

5 So we have done considerable work in racking and
6 stacking, if you will, what the near-term priorities are and
7 also putting us in a place where we do not find ourselves in
8 the position we are today where we are focusing
9 strategically on what the tools are that are necessary to
10 maintain our nuclear deterrent, as well as plan for the
11 future.

12 Senator Hawley: Yes. Thank you.

13 I mentioned the Nuclear Posture Review and let me just
14 stay with that for a moment. The Nuclear Posture Review
15 emphasizes low-yield capabilities, particularly modifying
16 the small number of existing submarine-launched ballistic
17 missiles and other low-yield options to ensure that
18 potential adversaries perceive no possible advantage in
19 limited nuclear escalation. That is a quote.

20 Do you agree with this assessment on the utility of
21 low-yield capabilities and the absolutely invaluable
22 deterrent potential that they provide?

23 Ms. Gordon-Hagerty: Yes, I do.

24 Senator Hawley: Would you agree that having the
25 flexibility of these weapons that they provide is essential

1 to keeping this country safe and strong?

2 Ms. Gordon-Hagerty: Yes.

3 Senator Hawley: Tell us about what more you need in
4 order to ensure that, again, the priorities outlined in the
5 NPR go forward here and that we continue to develop and
6 modernize the triad to continue to keep this country safe.

7 Ms. Gordon-Hagerty: We continue to need stable and
8 predictable funding. That is first and foremost our biggest
9 requirement.

10 And with that, that does not only just modernize our
11 stockpile. What it does is it modernizes the infrastructure
12 and do the recapitalization that has been long necessary.
13 As many people have noted, more than 30 percent of our
14 entire enterprise is more than 60 years old. That is
15 clearly unacceptable that we put our workforce, our very
16 dedicated workforce of 44,000 men and women across our
17 nuclear security enterprise in a situation where we might be
18 working eventually in untenable conditions. We tried to
19 minimize that situation, but with a broad, robust, and
20 continued support in funding from the Congress, which we
21 have seen for the last year or 2, that predictable and
22 stable funding is what we need to continue to ensure that
23 our nuclear deterrent remains second to none.

24 Senator Hawley: Thank you for that.

25 Secretary Perry, let me just ask you. As we think

1 about the priorities outlined in the NRP, we know that
2 Russia, who the National Defense Strategy identifies as a
3 peer competitor -- they have been investing in lower-yield
4 nuclear weapons and, of course, their famous escalate to
5 deescalate strategy. Can you talk a little bit about our
6 cooperation with our NATO allies and how that is going in
7 aligning our nuclear priorities to ensure that NATO is
8 resilient and ready to address Russia's advances?

9 Secretary Perry: Senator, our relationship with our
10 NATO allies from my perspective as I travel in Europe and I
11 am generally talking to them about buying American liquefied
12 natural gas, talking to them about how to have multiple
13 options, a diversity of fuels, a diversity of suppliers, a
14 diversity of routes, and as those conversations take place,
15 what I have observed is that we have a very, very strong
16 relationship with our NATO allies. They recognize our very
17 important role, particularly on being able to deliver our
18 energy to them. There has never been a time in history, or
19 certainly in my history, that the United States has been in
20 a stronger position to be able to support our allies with a
21 source of energy that will give them the option of whether
22 or not they are required to buy that energy from Russia.
23 That is a very, very powerful tool and I will suggest to you
24 one of the most powerful geopolitical tools that we have in
25 our toolbox today.

1 So our NATO allies -- not only they respect us for what
2 we have done over the last 75 years, but also what we are
3 doing today. I can assure you that Poland and the work that
4 is being done in Poland building LNG import facilities,
5 buying United States LNG is a powerful deterrent to Russia,
6 and it is a very comforting work that is being done that our
7 allies in Europe see and recognize that we are more than
8 willing to continue to deliver this diversified energy
9 source to them.

10 Chairman Inhofe: Thank you, Senator Hawley.

11 Senator Jones?

12 Senator Jones: Thank you, Mr. Chairman.

13 And thank you, Mr. Secretary and our witnesses today.

14 I really appreciate you being here.

15 Secretary Perry, just a quick question about a GAO
16 report that was released in December of 2018. It laid out
17 some criticism for how the Department of Energy and NNSA
18 handles recording and sharing of lessons learned from mainly
19 capital asset projects, claiming that not all the lessons
20 are documented consistently or shared in a timely manner,
21 which has led to cost and schedule inefficiencies.
22 Additionally, the report found that these lessons were not
23 accessible to other relevant staff.

24 Have you had a chance to look at that? Do you agree
25 with that, or can you address whether or not the Department

1 has taken steps to address those concerns?

2 Secretary Perry: With your permission, could I ask the
3 Administrator to address that? That is really more over her
4 specific shop.

5 Senator Jones: Absolutely. Wherever we can get the
6 best, that is fine with me. Thank you, Mr. Secretary. Yes,
7 ma'am.

8 Ms. Gordon-Hagerty: Thank you.

9 We are constantly trying to improve our processes and
10 procedures. We have come off of a number of different
11 places, off our high-risk list that GAO has put together.
12 We are undertaking best practices. We are taking that
13 particular issue about how we can categorize and also
14 codify, if you will, so that we can share best practices and
15 lessons learned throughout our entire NNSA, and we are
16 sharing those capabilities with the rest of the Department.
17 So, yes, we are taking all of those recommendations under
18 consideration by GAO, and we are finding ways of putting
19 together and improving our best practices program so we can
20 share those lessons learned.

21 There is nothing worse than finding ourselves in a
22 situation where we are repeating the problems that we have
23 had in the past. We have got a robust program through our
24 Office of Acquisition and Project Management that are
25 undertaking those efforts, and across our entire enterprise,

1 we are undertaking that effort.

2 We also have a closer effort at home that we have
3 undertaken in the last 6 months to capture lessons learned
4 on very specific projects and see how we can affect the rest
5 of the complex with those types of improvements that we are
6 making from the lessons learned of the past.

7 Senator Jones: Great. Thank you. Thank you very much
8 for that.

9 Either of you can answer this as well. In October, the
10 NNSA collaborated I think with British, Norwegian, and
11 Chinese experts to remove highly enriched uranium from a
12 research reactor in Nigeria that proliferation experts have
13 long warned could be a target for terrorists.

14 Can you talk about the impact a little bit about that
15 operation and if there is potential to do similar type
16 operations even with folks like China and Russia where we
17 are not always on the same side?

18 Ms. Gordon-Hagerty: The example that you cite, Senator
19 Jones, is a great news story. We have worked with the IAEA,
20 with Nigeria, and China to repatriate Chinese origin
21 material. So what we did was we actually refueled the
22 reactor in Nigeria with low-enriched uranium, a
23 proliferation-resistant fuel, and repatriated the material
24 to China. It is a huge success story, and it happened over
25 a number of years.

1 I am heartened to say that we have done that and we had
2 those commitments and have done 33 type of reactors, plus
3 Taiwan. 33 countries now have low-enriched uranium fuel
4 reactors where we have repatriated or sent the material to
5 the origin of the highly enriched uranium. So these are
6 great nonproliferation success stories, and we continue to
7 pursue opportunities like that throughout the world.

8 Secretary Perry: Great. Thank you, Senator. If I
9 could just add, you really make a great point of recognizing
10 that the United States from time to time work with countries
11 that are not necessarily our friends or in areas that are in
12 the world's interest.

13 The questions that I have been asked today about the
14 work that we have done with countries who may have
15 historically not been in our sphere but we would like to
16 have them in our sphere -- I have been asked a number of
17 times about Saudi Arabia and why you would do business with
18 Saudi Arabia. And I think you make the absolute great point
19 that if it is not the United States that is trying to create
20 civil nuclear programs in countries, particularly in the
21 Middle East and in Africa, that the potential for
22 nonproliferation -- it could be expanded by X factor if it
23 is not the United States. From time to time, these are
24 countries that do some things that we really are offended
25 by, but the potential of proliferation of nuclear materials,

1 if the United States is not involved, will be substantially
2 moved forward. And I think it is our moral responsibility
3 as a country to be engaged with this every place we can so
4 that that does not happen, the United States and our ability
5 to make sure that nonproliferation is being conducted. So
6 thank you.

7 Senator Jones: Well, thank you. I know my time is
8 out. I am going to follow up and maybe get some information
9 close to home. The Bellafont nuclear plant is up for sale,
10 and we have got an issue. That is a really important issue
11 to the people in my State, and I would like to maybe get an
12 update from you at some point --

13 Secretary Perry: Consider it done.

14 Senator Jones: -- about whatever we can do to help to
15 move that along. So thank you for that. We will follow up.

16 Thank you, Mr. Chairman.

17 Chairman Inhofe: We are going to deviate from a policy
18 I do not like to deviate from, and that is one of our
19 members has come back and wanted to ask one more question.
20 We going to make an exception. And, Senator Heinrich, you
21 are recognized.

22 Senator Heinrich: Thank you, Mr. Chair.

23 I wanted to ask the Administrator actually, because we
24 ran short on time, about the Mesa facility at Sandia
25 National Labs, how we are addressing the long-term need for

1 rad hard electronics, how we are going to address that in
2 the short term, but also what the plans are to make sure
3 that sort of capability is with us in the out-years in 10 or
4 15 or 20 years as well.

5 Ms. Gordon-Hagerty: With regard to the Mesa facility
6 at Sandia, we know that we will be able to provide radiation
7 hardened electronics for our nuclear weapons stockpile, a
8 critical component to our stockpile, through 2040. We are
9 now undertaking a robust plan to consider what, if any,
10 challenges we will undertake as we look to refurbish, if you
11 will, recapitalize or actually modernize our Mesa facility.
12 We are making investments into it to make sure that we can
13 maintain that facility through 2040, but the time is now to
14 start thinking about recapitalizing that capability, a
15 critical component, as we have discussed previously. We are
16 also speaking with our counterparts in the IC and in the
17 Department of Defense about what their needs are. So
18 perhaps there are some common themes there, but certainly
19 this is a critical component to our stockpile.

20 Senator Heinrich: Thank you, Administrator.

21 Chairman Inhofe: Thank you very much.

22 And thank you to our witnesses.

23 We are adjourned.

24 [Whereupon, at 10:58 a.m., the hearing was adjourned.]

25

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