QUESTIONS FOR THE RECORD
July 24, 2014: Full Committee Hearing to consider the Nomination of Dr. Elizabeth Sherwood-Randall

FROM SENATOR MARY LANDRIEU

Question 1.

In 1992, General Brent Scowcroft asked the Committee on International Security and Arms Control of the National Academy of Sciences for a full-scale study of the options for managing and disposing of surplus weapons plutonium. In the resulting study, the Committee recommended that weapons plutonium be disposed of in a manner that would meet what it called the "spent fuel standard." The Committee defined the "spent fuel standard" as making "plutonium roughly as inaccessible for weapons use as the ... plutonium that exists in spent fuel from commercial reactors." National Academy of Sciences, *Management and Disposition of Excess Weapons Plutonium* 12 (1994). *See also* National Academy of Sciences, *Management and Disposition of Excess Weapons Plutonium: Reactor-Related Options* 2-3 (1995); National Academy of Sciences, *The Spent Fuel Standard for Disposition of Excess Weapons Plutonium: Application to Current DOE Options* 1 (2000).

The Department of Energy used the Academy's report "as the starting point for evaluating alternatives regarding the long-term storage and disposition of plutonium" in its programmatic environmental impact statement for storage and disposition of weapons plutonium. 59 Fed. Reg. 31985, 31988 (June 21, 1994). In 1997, the Secretary decided that surplus plutonium should be disposed of by converting it into "forms that meet the Spent Fuel Standard, thereby providing evidence of irreversible disarmament and setting a model for proliferation resistance." 62 Fed. Reg. 3014, 3016 (Jan. 21, 1997) (Record of Decision on Final Programmatic EIS). In addition, the Secretary decided to fabricate surplus weapons plutonium into mixed oxide fuel for irradiation in light-water reactors. 65 Fed. Reg. at 3029. The Secretary has concluded that use of plutonium in mixed oxide fuel meets the Spent Fuel Standard. *E.g.*, 65 Fed. Reg. 1608, 1618 (Jan. 11, 2000).

a. Do you agree that the fundamental purpose of the Department's plutonium disposition program is to ensure that surplus weapons plutonium is never again used for nuclear weapons and that the Spent Fuel Standard is the appropriate standard against which plutonium disposition options should be evaluated?

Answer:
Yes, I agree that the fundamental purpose of the Administration's plutonium disposition program is to ensure that surplus weapons plutonium is never used again. If confirmed, I intend to work with Secretary Moniz to fulfill the President's commitment to the U.S. Plutonium Disposition mission, consistent with our obligations under the U.S.-Russia Plutonium Management and Disposition Agreement.

b. Do you agree that fabricating plutonium into mixed oxide fuel and irradiating it reactors meets the Spent Fuel Standard?

Answer:
Yes, I agree fabricating plutonium into mixed oxide fuel and irradiating it in reactors is consistent with the definition of the Spent Fuel Standard.

c. Would burial of plutonium in the Waste Isolation Pilot Plant meet the Spent Fuel Standard? *Management and Disposition of Excess Weapons Plutonium* 12 (1994).

Answer:
I am aware that one of the alternative excess plutonium disposition pathways currently being evaluated by the Department would involve downblending and disposing of plutonium in a repository. While this option would not meet the spent fuel standard, the 1994 report on the Management and Disposition of Excess Weapon Plutonium discussed other ways to minimize accessibility of the plutonium by creating physical, chemical, or radiological barriers. The downblending and disposal option would minimize accessibility through both physical and chemical barriers. Article III of the U.S.-Russia Plutonium Management and Disposition Agreement states that disposition can also be "any other methods that may be agreed by the Parties in writing."

FROM SENATOR MARTIN HEINRICH

Question 1.

At a hearing in April 2013, I asked Deputy Secretary Poneman the status of appointing a Technology Transfer Coordinator as required by section 1001(a) of EPAct05. Mr. Ponemen responded for the record that the position was vacant and would be addressed after a new Secretary was confirmed. It's now more than a year later and the position remains vacant. Given the importance of technology transfer to economic development, and the interest in accelerating technology transfer from so many members of Congress, I find the continued vacancy unacceptable.

What is the status of appointing a Technology Transfer Coordinator?
If confirmed, will you make the appointment of a coordinator a priority and will you work to enhance technology transfer efforts at DOE's laboratories?

Answer:
I understand that the Department of Energy and its laboratories have a long tradition of working with academia and the private sector on research and technology development efforts that have generated many scientific advances, and led to the creation of new U.S. businesses, jobs, and industries. It has been a priority of the Administration to help strengthen U.S. competitiveness by speeding up the transfer of Federal research and development from the laboratory to the marketplace, and the appointment of a permanent Technology Transfer Coordinator is an important element of that equation.

It is my understanding that the Department is actively looking to fill the role of Technology Transfer Coordinator. In the interim, Secretary Moniz has asked Dr. Ellen Williams to work as a Senior Advisor in his office on tech transfer issues. If confirmed, I will make the appointment of a coordinator a priority and will work to enhance technology transfer efforts at DOE laboratories.

Question 2.

I understand the NNSA has directed Los Alamos National Laboratory and other NNSA facilities to use the Supply Chain Management Center, or SCMC, for commodity purchases. A number of local officials in Northern New Mexico have expressed a concern that the use of SCMC will bypass the normal local competitive RFP process and drive purchases away from local and regional contractors to out-of-state firms. They indicate the switch to the SCMC has already had a negative impact on local small businesses that have a long and successful history of contracting with LANL.

Will you ensure the SCMC system provides small contractors equal access to participate in a fair and equitable manner?

Will you work to find ways for NNSA to assist local small contractors in Northern New Mexico in becoming approved SCMC vendors?

Answer:
I believe that small businesses and contractors are important to our national security enterprise, including NNSA. While I am not yet fully briefed on the details of the Supply Chain Management Center, I understand from our conversation in your office last week that it is important to you to ensure that small businesses and contractors have opportunities to compete. I am familiar with Northern New Mexico from my time there earlier in my career. I appreciated the opportunity to discuss this with you when we met prior to my confirmation hearing and, if confirmed, I look forward to learning more about the Supply Chain Management Center and working with you on this issue.

FROM SENATOR RON WYDEN

Question 1.

The clean-up of Hanford is one of the most complex chemistry problems in the world and DOE has been working, unsuccessfully for decades to engineer treatment technologies for hundreds of millions of gallons of many different kinds of radioactive waste stretching back to the Manhattan Project. I have raised this issue with Secretary Moniz, but to date I still do not see any substantive change in management approach or direction. Hanford contractor personnel are being required to sign non-disclosure agreements to prevent them from disclosing problems in the future. I am including an example of such an agreement along with these questions. I understand that DOE personnel are being told to that they too will be punished if they disclose information.

a) Will you please report back the extent to which these NDA's are being required both by DOE and by its contractors?

Answer:
I appreciated our opportunity to discuss this issue when we met in your office prior to my confirmation hearing. It is my understanding that non-disclosure agreements are used to ensure that sensitive, non-public information such as personally identifiable information and business-sensitive information is protected by Federal and contractor employees. I understand that the use of a non-disclosure agreement does not supersede the right and requirement of Federal or contractor employees to raise concerns. Further, I recognize your concern that employees may perceive contractors are using non-disclosure agreements to inhibit whistleblowers from raising issues. If confirmed, I will look into this issue in greater depth and consult with you once I have been fully briefed.

b) How can DOE support transparency and provide an environment safe for employees to report concerns at the same time that it binds them legally to silence?

Answer:
It is my understanding that the use of a non-disclosure agreement does not supersede the right and requirement of Federal or contractor employees to raise concerns. I strongly believe that all workers must feel confident in their ability to ask questions and express concerns. If confirmed, I will work to further efforts that are underway at the Department of Energy to reaffirm a culture of transparency and accountability

c) What will you do to make sure that both contractors and Federal employees are not intimidated and punished for raising safety and management problems?

Answer:
I believe that all workers must feel confident in their ability to ask questions and express concerns. I understand that the Department of Energy is currently undertaking efforts to

ensure that this is the case. If confirmed, I look forward to learning about the efforts currently underway and taking additional steps to enhance them if necessary.

Question 2.

Renewable energy technologies such as hydrokinetic energy and geothermal energy show huge promise for putting clean energy on the grid, and are important industries in my state of Oregon. These renewables continue to be underfunded in the DOE's budget requests. In fact, the Marine Hydrokinetic Program was one of the only programs to be cut back in the EERE FY15 budget. Will you commit to work with me to ensure that the level of budget support for these renewables within DOE matches both their continued importance to my state and clean energy broadly?

Answer:
Although I am not yet familiar with the budget history of marine hydrokinetic activities, it is my understanding that the Department is committed to advancing marine hydrokinetic research, development and demonstration. Further, I believe these clean energy technologies can play an important role in the Administration's "all-of-the-above" energy strategy. If confirmed, I commit to working with you on this important issue.

SENATOR JOE MANCHIN III

WITNESS NAME: Dr. Sherwood-Randall

Question 1.

Doctor, the President has pledged that his energy plan will recognize the need for an "all-of-the-above" strategy. How do you see coal fitting in to this strategy?

Answer:
I believe that coal will remain a critical part of our fuel mix for decades to come. As part of the Administration's "all-of-the-above" energy strategy, the Department of Energy is working to make sure that coal remains a competitive energy source in a low carbon future. For example, I strongly agree with the Administration's "all-of-the-above strategy" and, if confirmed, I will work hard to deliver on the commitment to advance coal technology as part of a low carbon future.

Question 2.

Doctor, as we've discussed, coal will continue to be used in this country and abroad in great volume for the foreseeable future.

The Department of Energy currently has $8 billion in loan guarantees available for advanced fossil projects. These guarantees were first authorized by Congress in 2005 but have not yet been provided to applicants. Can you please assure me that you will work hard to make these guarantees available for coal plant efficiency projects so that our country will lead the world in developing technology that allows for the continued use of coal while simultaneously reducing emissions?

Answer:
I fully support the goal of making guarantees available for advanced fossil energy projects, including coal plant efficiency projects so that our country will lead the world in developing technology that allows for the continued use of coal while simultaneously reducing emissions. As I understand it, to date no loan guarantees have been finalized under the available authority for fossil energy projects. As a result, in December 2013 the Department put forth a new solicitation for advanced fossil energy projects in order to find innovative fossil energy projects to finance. I understand that the Department is now reviewing applications received through that solicitation. If confirmed, I will make sure the Department is doing everything it can to make this program a success, consistent with our goal of ensuring that coal will remain a competitive energy source in a low carbon future.

Question 3.

Similarly, the Department's Office of Fossil Energy has roughly $1.7 billion in unspent advanced fossil grant funds that it has had since 2009. Will you work with me to make sure these funds are used wisely and that research universities are included in the administration of chosen projects?

Answer:
While I have not yet been briefed on any outstanding balances in the Office of Fossil Energy budget, if confirmed, I would be pleased to work with you to ensure the fossil energy budget is used wisely. This is consistent with the Administration goal of ensuring that fossil energy remains a competitive part of the Nation's energy mix in a low carbon future.

Question 4.

Secondly, I'd like to ask your help on an issue with which I know you are quite familiar. Russia is proceeding in its efforts to cut off natural gas shipments to Ukraine. Not coincidentally, the Ukrainian government has announced that its top priority is to reduce its dependence on imported natural gas by 30 percent. It makes sense for the United States, in this time of crisis, to provide Ukraine with the technology to efficiently burn their own domestically-produced coal. I'd like to get your commitment to work with me to ensure we use advanced American fossil energy technology and our international financing mechanisms, including the Export-Import Bank and the Overseas Private Investment Corporation (OPIC), to provide the Ukrainians with a solution for their energy security. May I have your commitment to help with my efforts?

Answer:
I share your concerns about the energy security of our European allies and partners that have become more salient as a consequence of the crisis in Ukraine. G7 leaders have tasked their Energy ministers with taking steps to improve our collective energy security, and as part of that I understand the Department of Energy is working with its counterparts on many facets of energy security in Europe, including promoting more effective use of their own energy resources. While I am not yet fully briefed on the ways that the Export-Import Bank and OPIC will fit into that strategy, if confirmed I will be pleased to work with you on this important issue.

Question 5.

NETL, which is in my state, remains a vital resource for our nation in ensuring that we continue to utilize coal as we work to reduce emissions from our nation's electricity generation system. I'd like to invite you to West Virginia to see NETL with me. Would you be willing to consider my invitation?

Answer:

Yes. If confirmed, I would be very pleased to visit NETL with you, which is an important resource to our Nation in conducting clean coal research and development.

Question 6.

Coal is a critical energy source for our Nation. Coal is also a vital part of the economies of a number of states, including West Virginia. NETL has played a key role in identifying, developing and deploying numerous technologies that have increased efficiencies and reduced environmental concerns from coal-fired power plants. Will you support NETL's role in coal research and will you work to reverse the trend of diminished budgets and diminished support for NETL coal programs?

Answer:
Yes. I believe that NETL plays an indispensable role in clean coal research and development. While current budgetary constraints present funding challenges across the the Department of Energy complex, if confirmed, I will work to ensure that NETL receives sufficient support for its core mission of advancing fossil energy technology.

Question 7.

Would you be receptive to increasing the Carbon Capture and Sequestration (CCS) budget and do you see benefit in increasing the budget for coal program areas outside of CCS?

Answer:
I understand that in addition to the annual budget for CCS research in the Office of Fossil Energy, a significant investment in CCS technology was made as part of the Recovery Act and that the projects funded under the Recovery Act are helping to significantly advance CCS technology. If confirmed, I look forward to working with you to make sure that adequate resources are dedicated to advancing clean coal technologies.

Question 8.

Would you also support a robust suite of research programs into other coal related technologies including advanced power efficiencies, combustion research, gasification, fuel cells, and coal-to-liquids?

Answer:
Yes. I understand that the Office of Fossil Energy is working on those coal related technologies in addition to the work being conducted on CCS. This includes work on advanced power efficiencies, combustion research — including potentially transformational technologies such as oxy-combustion and chemical looping — and gasification. I understand that the Crosscutting Research Program in the Office of Fossil Energy also includes a number of R&D projects on coal related technologies that can increase efficiencies such as advanced materials, sensors and

controls. If confirmed, I will be committed to supporting a robust portfolio of coal related technologies that can ensure the role of coal in a low-carbon future.

Question 9.

As you know, I have a keen interest in NETL, Fossil Energy's Award Winning National Laboratory. NETL is at the forefront of research to develop and utilize fossil energy in an efficient and environmentally responsible fashion. NETL has been extremely successful, with scores of R&D 100 awards in the last decade, and numerous Federal Laboratory Consortium awards for Excellence in Technology Transfer. In short, NETL is superb at identifying and developing new technologies, and getting those technologies to the marketplace. In keeping with the historic structure of NETL and the Secretarial Designation declaring NETL a National Laboratory, NETL has continued to operate as a Government-owned, Government-operated (GO-GO) facility. Although uncommon within DOE, NETL's operating model is common throughout much of the Government. Being a GO-GO gives NETL…an advantage)……If confirmed would you support the current GO-GO structure of NETL?

Answer:
Yes. I recognize the uniqueness of NETL's government-owned, government-operated structure. If, confirmed I will support its current structure.

Question 10.

Given that any attempts to privatize NETL would significantly disrupt NETL's ability to carry out its critical missions as well as significantly disrupt the workforce, if confirmed, would you oppose efforts to privatize NETL's Federal workforce?

Answer:
I am not aware of any efforts to privatize NETL's workforce, and, if confirmed, I would support maintaining NETL's current status.

Question 11.

NETL has traditionally been a key player in the performance of a broad range of DOE programs, most recently Energy Efficiency and Renewable Energy (EE/RE) and the Office of Electricity Delivery and Energy Reliability (OE). Would you support the continued efforts of NETL in accomplishing these key aspects of DOE's portfolio?

Answer:
Yes. As you note, NETL is critical to the Department's mission to advance the energy security of the United States. If confirmed, I will support the continued success of NETL programs.

Question 12.

What about your vision for the DOE Office of Fossil Energy? Some of its programs, such as combined heat and power, have been recently moved to other areas of DOE. When will they be brought back to the FE fold of work?

Answer:
If confirmed, I will work with the Secretary to assess the distribution of activities across the Department to ensure the Department of Energy's research is being conducted in ways that maximize the Administration's energy policy, security, economic, and environmental objectives.

Question 13.

If confirmed, do you plan to work to ensure the NETL mission is fully supported?

Answer:
Yes.

Question 14.

There are programmatic barriers that limit the NETL's ability to grow its programs and capabilities beyond its historical fossil energy mission. Would you be willing to help remove those barriers so that NETL can respond to growth opportunities?

Answer:
If confirmed, I will learn more about NETL's programmatic structure and any challenges it faces. I would be pleased to work with you to make sure NETL is fully leveraging its scientific and technical expertise in support of our national interests.

Question 15.

Will NETL be allowed to explore into other arenas of research, as have other labs and sections of DOE? This type of research has allowed other organizations to grow in DOE.

Answer:
As you previously mentioned, NETL is already conducting research that cuts across the range of Departmental programs. If confirmed, I will examine how best we can maximize the contribution of each of the labs to the Department of Energy's mission in support of our national interests.

Question 16.

It is reported that the United States has tens of billions of barrels of oil left stranded in known reservoirs. This is in addition to the recent increased production of natural gas and oil as a result of shale reservoir developments, which I might add, DOE and more specifically, NETL, played a significant role in research and development thereof.

It is obvious that advanced technologies are needed to unlock this substantial domestic resource of "stranded" oils, and to do so in an environmentally responsible way. However, this Administration consistently requests zero, I repeat, zero funding for DOE oil research.

Given this significant potential and all the associated benefits to our nation if we develop this "stranded" oil resource, would you, if confirmed, advocate for research funding focused on Enhanced Oil Recovery, including funding for carbon dioxide enhanced oil recovery technologies?

Answer:
If confirmed, I will work with the Secretary to assess the distribution of activities across the Department to ensure the Department of Energy's research is being conducted in ways that maximize the Administration's energy policy, security, economic, and environmental objectives. It is my understanding that the Quadrennial Energy Review process may provide guidance on priorities to be pursued with constrained resources.

I also understand that a number of Office of Fossil Energy-supported CCS projects, including the Air Products industrial capture project in Port Arthur, Texas, the Kemper County Project in Mississippi, and the Petra Nova advanced post combustion capture retrofit project, are significantly advancing technologies that underpin enhanced oil recovery (EOR). Moreover, the Department has issued an $8 billion loan solicitation to support energy generation projects that will support advanced fossil energy projects, including EOR technologies.

If confirmed, I will support the Department's efforts to advance clean coal, including for utilization for EOR, as part of the Administration's "all-of-the-above" energy strategy.

Question 17.

The DOE's research portfolio seems void of research aimed at improving the efficiency of natural gas production from shale formations and other unconventional formations, and in maximizing resource recovery, and doing so in an environmentally responsible way. Such research would have widespread benefits for many businesses, including small businesses, and for our nation.

That being the case, do you recognize the value in production-related research and would you actively work to secure funding from Congress through the DOE Office of Fossil Energy to conduct this research?

Answer:

As you mention in your previous question, the Department of Energy played a significant role in the research and development that has led to U.S. industry greatly increasing our Nation's natural gas and oil production from shale. If confirmed, I will work with the Secretary to ensure the Department's research is appropriately focused to facilitate our transition to a low carbon economy that includes a broad range of domestic energy sources, including natural gas.

Question 18.

Many of the landowners and businesses alike involved in the recovery of shale gas are concerned about the usage of water in that process. Given the enormous economic potentials of this shale gas, such a concern should be addressed. To reduce the environmental footprint of natural gas production, "a comprehensive program is needed to address the issues of water use and backflow and produced water in unconventional gas production," as recommended in a report issued from an MIT study group chaired by Dr. Moniz in 2011.

Would you support the funding of a program in the DOE Office of Fossil Energy to accomplish such an important goal?

Answer:
Consistent with Secretary Moniz's view, I believe that the safe and environmentally sustainable production of America's energy resources are a core element of the mission of the Office of Fossil Energy (FE).

I am aware of cross-cutting work within the Administration to address this issue, and know that FE is playing a critical role. Last month, the Department released a report entitled "The Water-Energy Nexus: Challenge and Opportunities," which notes that water scarcity, variability, and uncertainty are becoming more prominent, potentially leading to vulnerabilities of the U.S. energy system, including in natural gas production. The report provides a foundation for future DOE action in response to the challenges in this space. Furthermore, the Quadrennial Energy Review is also examining water use in energy production, and may provide guidance on priorities to be pursued.

If confirmed, I will work to ensure that the Department's ongoing examination of the role of water in energy production informs our approach to this important concern.

FROM RANKING MEMBER SENATOR MURKOWSKI

Question 1.

Understanding that you are likely to focus primarily on nuclear security and non-proliferation, I also want to learn more about your experience with more traditional energy policy. Can you tell us the extent of your work on energy, at the federal level or elsewhere? If we come to a point where Secretary Moniz decides to leave the Department before you do, do you think you will be ready to serve as Acting Secretary?

Answer:
Indeed, I have worked for several decades on national security, including the safety, security, and effectiveness of our nuclear weapons and the laboratories and infrastructure that support them, and on preventing the proliferation of weapons of mass destruction. As you know, these are important dimensions of the Department of Energy's mandate. Furthermore, throughout my career, I have had responsibilities for broad, strategic portfolios, in which global energy issues have played an increasingly prominent role. As I stated in my testimony, I believe that America's domestic resources will be a major source of our domestic and international strength in the 21st century.

If confirmed, I look forward to working closely with you and your colleagues to advance Secretary Moniz's priorities, including: the "all-of-the-above" energy strategy for America's energy future, championing America's international energy leadership, working with our national laboratories, universities, and the private sector, and strengthening the Department's program and project management across the enterprise to deliver results and value for taxpayers. I also look forward to working closely with Secretary Moniz and learning from his vast experience throughout the energy sphere to ensure that I am well prepared to execute my duties as the Deputy Secretary, and, should I be called upon to do so, to serve as Acting Secretary.

Question 2.

Do you support GAO's recommendation for a formal documented process between DOE, FERC and EPA to interact with respect to the impact of EPA rules on electric reliability?

Answer:
I understand that greater coordination between the Department of Energy, FERC and EPA is an important element of successfully addressing any potential challenges relating to electric reliability.

Question 3.

What is your general view of our nation's current energy policy and how does Alaska fit in? Do you support an "all-of-the above" energy policy, and if so, what does that phrase mean to you?

Answer:
I support the Administration's "all-of-the-above" energy policy and am committed to advancing it. As you and I have discussed, I believe that Alaska has many unique opportunities and challenges — including many types of energy resources, such as hydropower, geothermal, oil and gas, as well as its high cost of electricity and dispersed population. I understand that this means that Alaska faces challenges that are distinct from those in the lower 48 states, and, if confirmed, I pledge to work with you to address those issues.

Question 4.

While you have focused on the nuclear side of DOE-related energy issues in your career, what technologies do you believe offer the greatest potential for economic renewable energy development over the next decade? In your opinion, what is the best use of federal dollars to advance energy development in the future?

Answer:
I understand that Secretary Moniz has focused on three main items within renewable energy development: lowering the cost of renewable energy technologies to achieve price competitiveness with traditional energy resources; accelerating the transition to a low-carbon economy; and ensuring that technologies are available to deploy renewables at scale. I share his commitment to integrating project management functions across Department of Energy offices and activities, as well as the private sector, academia and the national laboratories — all of which will ensure that we are using Federal funds wisely to advance our energy technology development.

Question 5.

Given your past experience in the NSC, do you believe energy production and energy exports are in the national interest?

Answer:
As I stated in my confirmation hearing, I believe we should be carefully evaluating all options to ensure that we deliver maximum value to the American consumer and retain America's competitive edge globally.

Under the Natural Gas Act, exporting LNG requires authorization from the Department of Energy. The export permit requires that the Department of Energyconfirm that the export would be consistent with the "public interest". My understanding is that the Department of Energy has recently conditionally approved seven proposals for export of LNG one of which has been finally approved, and that additional proposals are also under consideration.

Question 6.

What are your thoughts on crude oil exports? I realize this is typically a Commerce Department area of jurisdiction, but crude oil is energy and you will be the Deputy Secretary of DOE if confirmed.

Answer:
As you have stated, current allowances and restrictions regarding crude oil exports are set by law and enforced by the Department of Commerce. I understand that Administration officials have said that they are taking an active look at the implications of growing domestic energy supplies, including the economic, environmental and security opportunities and challenges that it presents. This includes examining how our refining capacity matches with significant increases in domestic crude production.

Question 7.

Given your past experience, do you have any thoughts about the impact the unconventional oil and gas boom has had on U.S. national security and our broader position overseas?

Answer:
The natural gas boom is certainly an advantage for the United States. As Secretary Moniz has said, it is partially responsible for the decrease in CO2 emissions that we have experienced over the last years and it is a bridge to a low-carbon future.

The increase in oil production has had very significant impact here at home in that for the first time in over 20 years we are producing more oil than we are importing. We are largely self-reliant for natural gas, which has had the side-benefit of freeing up international resources of gas for our allies and partners. While these efforts have had a positive impact on our energy security here at home, we have more to do across the energy portfolio to increase our energy security and assistant to our allies and partners, especially those facing manipulative pressure from other providers.

Question 8.

Former Alaska Senator Ted Stevens created the Arctic Energy Office in DOE to research a host of energy technologies of particular importance to the Arctic – from methods to develop heavy oil, to ways to recover methane hydrates from beneath the Arctic seafloor, to ways to improve electricity generation and transmission in rural areas. Unfortunately, that office closed four years ago and DOE now has only a couple of employees partially stationed in Alaska. As you may know, a 2008 USGS report found that 13 percent of the world's undiscovered oil and more than 30 percent of its natural gas likely lie under the Arctic. In light of this, and given the world's interest in Arctic issues, do you believe we need a greater emphasis on Arctic, cold-climate energy research?

Answer:
I am aware of the value that Alaska's congressional delegation places on energy technology research in the Arctic region, particularly its energy production potential. During my service in the Administration I have participated in the development of our Arctic strategy and, if confirmed, I look forward to learning more and working with you on this issue.

Question 9.

Given that Secretary Moniz is recused from any decision-making related to fusion energy-related activities at DOE, would you be able to assume a leading role on this issue? This is especially important in light of a recent GAO report that was quite critical of the serious management challenges and overall progress (or lack thereof) of the International Thermonuclear Experimental Reactor (ITER). I believe that a strong and effective leadership team at DOE is key to address this latter issue and the overall direction of the fusion program in this country.

Answer:
I agree that that strong and effective leadership at the Department of Energy is critical to the success of complex, including international scientific projects such as ITER. If confirmed, I look forward to assuming a leadership role to ensure that this project is well managed. Further, I am aware that a number of ITER's challenges pertain to participating countries meeting their international commitments for the project in a timely fashion as well as management issues that are currently being addressed. If confirmed, I look forward to being more fully briefed on ITER and identifying options to improve the management and governance of the project.

Question 10.

Secretary Moniz decided to create the office of the Undersecretary for Science and Energy, with the goal of better collaboration between those two crucial parts of DOE. What role do you see for yourself in ensuring that this goal is achieved, and can you share some of your thoughts on how to ensure the success of this strategy?

Answer:
In July 2013, Secretary Moniz and Deputy Secretary Poneman announced a Department reorganization creating the Office of the Undersecretary of Science and Energy position. The creation of the position reflects an understanding that the innovation chain is not linear, and that it requires feedback between and among programs responsible for different Department of Energy research and development (R&D) modes. The Department needs the ability to closely integrate and improve the ease of communication among basic science, applied research, technology demonstration, and deployment activities. If confirmed, I look forward to supporting this model that is designed to strengthen the innovation and impact of the Department of Energy's R&D efforts.

Question 11.

How will you seek to manage the nation's nuclear stockpile?

Answer:
The safety, security, and effectiveness of our nuclear arsenal and the vitality of the national laboratories and production facilities that support that effort must be a high priority for the Deputy Secretary of Energy. If confirmed, I expect to be able to hit the ground running on this issue of critical importance to our national security. I would build on my deep expertise in defense management and nuclear deterrence to ensure that the nation's nuclear stockpile is properly resources and adapted to meet our emerging national military requirements.

Question 12.

How do you view the relationship between civilian nuclear waste and defense waste in terms of disposal prioritization? How should the overall issue of disposal be addressed?

Answer:
I am aware that the Obama Administration's efforts on nuclear waste disposal are guided by the Blue Ribbon Commission (BRC) on America's Nuclear Future's core recommendations and an Administration "Strategy for the Management and Disposal of Used Nuclear Fuel and High-Level Radioactive Waste." The BRC was established to conduct a comprehensive review of policies for managing the back end of the nuclear fuel cycle, including all alternatives for the storage, processing, and disposal of civilian and defense used nuclear fuel, high-level waste, and materials derived from nuclear activities. Additionally, I am aware that the Administration's Strategy represents a basis for discussions between the Administration and Congress on a path forward for disposal of nuclear waste and provides near-term actions to be implemented by the Department of Energy pending enactment of new legislation. I appreciate your efforts, working with a bipartisan group of your colleagues, to introduce legislation on this topic. Guided by these efforts, if confirmed, I look forward to working diligently to address the needs of the back-end of the nuclear fuel cycle and setting it on a sustainable path.

Question 13.

As an Alaskan, I support hydropower in all forms. Over the long-term, I believe marine hydrokinetic technology offers considerable potential for low-cost renewable energy. At the same time, I believe further research can continue to improve conventional hydropower production. What is your view on the hydropower resources and how do you believe the Department should prioritize its water power budget?

Answer:
Hydropower is a key contributor today and is an important part of the Administration's "all-of-the-above" energy strategy. I believe that further innovation and advancement of hydropower technologies are both possible and necessary to: lower the costs of initial installations; minimize environmental impacts in a timely, low-cost way; encourage the development of new

hydropower generation, including micro-generation; and lower the costs of pumped hydro storage, which is an important storage option for other power generation technologies.

If confirmed, I look forward working with you on marine hydrokinetic issues.

Question 14.

What do you see as the future of Department-funded research into wind-turbine technology and for integration of wind into the electrical grid? In your view, should DOE's funding for wind-related activities increase, decrease, or stay at its current level?

Answer:
The research community studying climate science for several decades overwhelmingly agrees that we need to accelerate the transition to a low-carbon economy as an essential strategy for mitigating the most serious impacts of climate change. Energy infrastructure requires decades to turn over and the Administration is committed to developing and deploying affordable energy technologies at a scale sufficient to power and fuel the nation. Lowering the cost of low-carbon options such as wind is important to achieving that goal, and it is supported by the Department of Energy's R&D portfolio. If confirmed, I will support the Department's ongoing efforts to advance wind power as part of the Administration's "all-of-the-above" strategy.

Question 15.

It is estimated that America has enough methane hydrates, if we can access them safely, to power our energy needs for a millennium. But, while the Department funded a 2012 test in Alaska to prove that hydrates can be made to "flow," it has taken considerable effort to get the Department to follow up on that test with further testing and research. Given that Japan is considering hydrates as a major future source of its energy needs, how do you view the Department's role in methane hydrate research? How much funding should be provided to support DOE's methane hydrate efforts?

Answer:
Although I have not yet been briefed on the role of methane hydrates in the Department's research and development portfolio, it is my understanding that the Office of Fossil Energy and the National Energy Technology Lab support a number of research projects in unconventional natural gas production, including projects focused on the potential of methane hydrates.

If confirmed, I will expeditiously request a briefing on the Department of Energy's methane hydrates research portfolio and pledge to work with you on this issue.

Question 16.

In Section 803 of the 2007 Energy Independence and Security Act (EISA), Congress authorized a matching grant program to help fund the capital costs of all types of renewable energy projects in high-cost areas like Alaska. The program, however, was not Alaska-specific but rather national in scope. What is your view on DOE's role in general to spur the development of renewable projects and on Section 803 of EISA in particular?

Answer:
While I am not familiar with the specific provision of the Energy Independence and Security Act, I support the continued research, development and deployment efforts associated with renewables as part of the Administration's "all-of-the-above" strategy. Specifically, I will support the Secretary's priorities of lowering the cost of renewable technologies to achieve price competitiveness with traditional sources of energy; accelerating the transition to a low-carbon economy; and assuring we have the key enabling technologies needed to enable renewables deployment at scale

If confirmed, I will request a briefing on Sec. 803 and look forward to working with you to address your concerns.

Question 17.

Former Secretary Chu proposed an expanded role for the Power Marketing Administrations (PMAs) to be directed by the Department of Energy and without consultation with Congress. After 166 members of Congress wrote to then-Secretary Chu to take issue with this approach, Deputy Secretary Poneman did not pursue many of the initiatives set forth in the so-called "Chu memorandum." If confirmed, would you pursue former Secretary Chu's proposed initiatives and expand the PMAs' mission? Please explain your approach to the PMAs and specify if and how you would change any PMA-related management.

Answer:
I am aware of Secretary Chu's March 16, 2012 memo. If confirmed, I will be fully briefed on the Power Marketing Administrations and their unique challenges and opportunities. Further I will abide by the governing statutes of each PMA, and I will work with you and the stakeholders in each PMA region to ensure that the PMAs are operating as efficiently and effectively as possible while following all Federal laws and applicable regulations.

Question 18.

I have been told the Senate Defense Appropriations Subcommittee has included the below language in the base text of their bill:

> SEC. 8121. Notwithstanding section 1552 of title 31, United States Code, funds made available under the heading ''OPERATION AND MAINTENANCE'' under the heading ''DEPARTMENT OF DEFENSE'' under title III of division A of Public Law 111–5 (123 Stat. 132) and any funds made available for Fossil Energy Research and

Development by the Department of Energy under title IV of the same division of Public Law 111-5 (123 Stat. 139) shall remain available for expenditure, until such funds have been expended, for the purpose of liquidating the obligations.

Regarding this language, please clarify:

a. If the DOE requested this language.

Answer: To the best of my knowledge, the Department of Energy did not request this language.

b. If the language is placed into law, would DOE interpret the language to only allow the funds to flow to the Future Gen 2.0 project, or would other fossil energy demonstration projects be eligible to use the funds?

Answer: I am aware that it is the Department of Energy's understanding that this language would apply to all of the fossil energy demonstration projects authorized by P.L. 111-5.

c. If DOE would allow other fossil energy demonstration projects to use the funds provided by the referenced language, how would DOE prioritize allocation of the funds to projects? What criteria would be used to determine funding eligibility?

Answer: I am aware that it is the Department of Energy's understanding that this language would only apply to the funding that has already been obligated to projects authorized by P.L. 111-5.

Question 19.

Regarding Clean Coal demonstration programs generally, what are the "un-costed balances," if any, with respect to funds obligated but not expended for clean coal demonstration projects? What plans are there to assure that the work underway in such projects will be completed or the benefits of the work already completed will be preserved if the projects are not completed?

Answer:
I understand that the Department of Energy is focused on working to complete clean coal demonstration projects that are currently underway. I do not know what steps may be taken for projects should they not be completed, but if that should happen, and if I am confirmed, I would make every effort to maximize the value of the investment for the taxpayer.

Question 20.

Regarding the National Energy Technology Laboratory (NETL), and given the comparative success of NETL programs, what assurances can you provide about leadership and

programmatic stability in light of recent changes in the Office of the Director? Do you anticipate any significant changes for the lab and its programs as a result of the appointment of a new director?

Answer:
I am aware that there will be a new Director of NETL in the near future, but I am unaware of any significant changes planned for the lab programs. If I am confirmed as Deputy Secretary, I will work with NETL to ensure that the transition to new leadership supports the continuing execution of its important mission.

FROM SENATOR ROB PORTMAN

Question 1.

If confirmed, will you commit to help improve the communication between DOE and Congress?

Answer:
Yes, I will.

Question 2.

DOE is conducting decontamination and decommissioning (D&D) cleanup of the Portsmouth Gaseous Diffusion Plant (GDP) in Piketon, Ohio. What do you know of the cleanup effort? In your view, what are the current and future challenges for the site?

Answer:
I understand that the Portsmouth Gaseous Diffusion Plant made an important contribution to American national security and was also integral to the commercial nuclear industry. Since the plant ceased operations in 2001 and work shifted to cold shutdown in 2006, I understand that the plant has been owned by the Office of Environmental Management, which is responsible for cleanup at the site. I know that the local community is very interested in the cleanup mission as it supports important jobs in an economically depressed area and will enable future use of the site.

I am aware that one of the most important challenges is the past and current use of uranium barters to accelerate cleanup at the site, particularly given the current low global uranium prices and the amount of uranium left for the Department to barter to support this work. This is presenting a challenge to the community, and it is one that we must be sensitive to given the significant contributions made by workers in Piketon over many decades.

Question 3.

If confirmed, will you work with the Ohio delegation to maintain the Administration's commitment to an accelerated cleanup schedule for the Piketon site?

Answer:
I understand that the Department of Energy has for the last several years used uranium barters to fund accelerated cleanup at the Portsmouth plant. As you and I discussed in your office and subsequently during the hearing, if confirmed, I look forward to learning more about the details

of the site, to finding an opportunity to visit it with you, and to working with you to address this important issue.

Question 4.

If confirmed will you prioritize the effort to finalize the building demolition and the waste disposal plans as soon as possible?

Answer:
While I am not familiar with the details of these plans, I am aware that they have been delayed. I appreciate your interest in moving forward with these plans. If confirmed, I will work to ensure that they are moved forward as expeditiously as possible.

Question 5.

It is my understanding that DOE formulated its FY2015 budget request for the Portsmouth site based on an estimate that FY2015 barter proceeds would be approximately $188 million. Over the past several months, uranium prices have declined and the projected barter proceeds for FY2015 are now less than $188 million. If confirmed, what measures will you pursue to cover a gap in funding Portsmouth D&D in FY2015 caused by lower uranium prices?

Answer:
I am aware that falling global uranium prices are expected to have a significant impact on the cleanup work at Portsmouth, and I am concerned about this impact on the workforce and on the pace of progress. If I am confirmed, I work with Congress and within the Department to determine what options are available to address the challenges created by lower uranium prices.

Question 6.

In your opinion, has the Department followed the requirements of the USEC Privatization Act that require the Secretary to determine that its transfer of uranium does not harm the domestic uranium industry?

Answer:
It is my understanding that Secretary Moniz recently issued a determination in accordance with the requirements of the USEC Privatization Act in May 2014.

Question 7.

If confirmed will you support the barter program while also working with Congress to find a permanent and more stable funding stream for the cleanup at Piketon?

Answer:
I am aware that the uranium barter program has permitted the Department to make uranium transfers to fund accelerated cleanup at the Portsmouth site, and I understand that the continuation of this program is consistent with the Department's principles and policies, and will help continue to fund cleanup. If confirmed, I will support the continued use of the barter program along with seeking appropriations as needed to fulfill our clean-up efforts.

Question 8.

The United States must have the technology for a fully domestic source of enriched uranium to support our nuclear weapons program and the Navy nuclear reactors program. Secretary Moniz, Secretary Chu, Assistant Secretary Peter Lyons, and your predecessor Dan Poneman have testified to that fact before this committee. Do you agree with that sentiment?

Answer:
Yes, that is my understanding, and based on my understanding I agree with that policy.

Question 9.

International agreements prevent us from purchasing enriched uranium from foreign-owned companies for military purposes. Is that your understanding?

Answer:
Yes, that is my general understanding.

Question 10.

The United States has no operational enrichment capability that meets those national security requirements now that the Paducah Gaseous Diffusion Plant is shut down, is that correct?

Answer:
It is my understanding that there is no other operational capability to meet those requirements at the present time.

Question 11.

Are you aware of any technologies on the immediate horizon that could fulfill this requirement?

Answer:
I am not aware of any other technology applicable for this requirement that are immediately available.

Question 12.

Do you believe that these national security implications should be taken into account when it comes to any federal involvement in the development of an enrichment capability?

Answer:
Yes.

Question 13.

If confirmed, will you support the Department's efforts on ACP?

Answer:
Yes, I will support the Department's efforts towards a U.S.-origin enrichment capability.

FROM SENATOR JOHN BARRASSO

WITNESS NAME: Dr. Sherwood-Randall

Question 1.

Earlier this year, the Department of Energy (DOE) gave conditional approval to the Jordan Cove LNG export terminal. This terminal would enable natural gas producers in Wyoming and other states to export LNG to markets in Asia.

DOE's Conditional License Order for the terminal reads as follows: "To the extent U.S. exports can diversify global LNG supplies, and increase the volumes of LNG available globally, it will improve energy security for many U.S. allies and trading partners."

Immediately afterward, the Order states: "As such, authorizing U.S. exports may advance the public interest for reasons that are distinct from and additional to the economic benefits identified in the [NERA] LNG Study."

Do you agree that LNG exports from the United States, including LNG exports to Asia, would improve the energy security of our allies and trading partners and promote the public interest here in the United States? Please provide a "yes" or "no" answer. If your answer is "no," please explain why you disagree.

Answer:
Yes, based on the briefings I have received from the Department of Energy, I agree.

Question 2.

On Tuesday, David Goldwyn, a former Special Envoy for International Energy Affairs at the State Department, testified before the Foreign Relations Committee.

He stated that: "A clear signal from the U.S. that LNG exports will be available to European allies for future purchase would put immediate pressure on Russia's market share and export revenues."

You are an expert on Russia and Ukraine. You have written extensively on these countries. You have also served in prominent roles at the Department of Defense and on the National Security Council where you helped set policy related to these countries.

Do you agree with Mr. Goldwyn that—"A clear signal from the U.S. that LNG exports will be available to European allies for future purchase would put immediate pressure on Russia's market share and export revenues"? Please provide a "yes" or "no" answer. If your answer is "no," please explain why you disagree.

Answer:
We take the energy security of our allies and partners in Europe very seriously. The Obama Administration has been working with European governments to strengthen energy security and diversify supplies.

The Department of Energy has conditionally approved U.S. LNG export facilities with 9.3 billion cubic feet per day of capacity that can be exported both to countries with which we have Free Trade Agreements and to those where we do not, such as European countries. These are volumes are significant — to put it in perspective, these volumes are more than the total amount of LNG that Europe currently imports and equal to over half the gas Europe currently imports from Russia.

As I understand it, the first project to export U.S. LNG is not expected to come online until late 2015/early 2016. Nevertheless, we are committed to putting gas onto the global market in a way that is consistent with U.S. public interest because we know that increased global supplies help our European allies and other strategic partners.

Question 3.

In over three and a half years, DOE has approved only one application to export LNG. It has given conditional approval to six other applications. Meanwhile, DOE is sitting on 26 pending applications, the majority of which have been pending for more than a year.

In light of what is taking place in Europe, do you believe the Administration is acting fast enough on pending LNG export applications? If not, what steps, if any, would you take to expedite the processing of LNG export applications? Please be specific.

Answer:
The Natural Gas Act requires the Department to conduct a public interest determination for LNG exports to non-Free Trade Agreement countries. An important factor in that analysis is international considerations. I understand that the Department recently proposed a change in LNG authorization procedure that would streamline the approval process by eliminating the step of issuing conditional commitments. By eliminating this step, the Department of Energy can turn immediately to the projects most ready to proceed with construction. I believe that this is an important step in streamlining the process. If confirmed, I will ensure that the Department of Energy conducts its review of the export applications as expeditiously as possible consistent with the public interest.

Question 4.

DOE has proposed to suspend issuing conditional licenses altogether. Instead, it has proposed to issue licenses after the Federal Energy Regulatory Commission completes the environmental review process for projects. If DOE decides to stop issuing conditional licenses and you are

confirmed, would you support DOE making exceptions if the applicant can show that its project would not be financially viable without a conditional approval?

Answer:
I am not yet at the Department and not privy to discussions between the Department of Energy and the applicants, but I understand the latest proposed change to eliminate conditional approvals was done in response to changing needs in the marketplace. I understand that the proposed change was put out for public comment, but I do not know what those comments have said about the elimination of conditional approvals. If confirmed, I would like to review what the Department learned through the comment period before considering any further changes in procedure, and I would be pleased to discuss this with you at that time.

Question 5.

For years, DOE has transferred its excess uranium inventories to other parties in exchange for cleanup services. I have repeatedly expressed my opposition to these transfers. DOE's transfers distort America's uranium market and hurt our uranium producers.

Since May 2012, the Department of Energy's transfers have contributed to about a 50 percent drop in the spot price of U3O8. Between 2011 and 2013, the Department of Energy's transfers have contributed to a 19 percent drop in employment in uranium exploration and mining.

On May 15 2014, Secretary Moniz issued a Secretarial Determination authorizing additional uranium transfers. In his order, Secretary Moniz included a finding that these transfers would not have "an adverse material impact" on America's uranium mining, conversion, and enrichment industries. With all due respect to the Secretary, his finding is hard to believe.

Last week, I — along with 17 other members of Congress — sent Secretary Moniz a letter about his order (attached). We asked him to provide the basis for his finding that DOE's transfers will not have an adverse material impact on America's uranium mining, conversion, and enrichment industries. To date, DOE has refused to disclose this information.

When can we expect the Secretary to disclose the requested information?

Answer:
I am aware of the recent letter that you sent to Secretary Moniz, and appreciate your having shared it with me as well in advance of my confirmation hearing last week. As I am not yet at the Department, I do not have precise knowledge regarding the schedule for Secretary Moniz to provide you with the requested information.

Question 6.

Do you believe that it is important that the United States have strong uranium mining, conversion, and enrichment industries? If so, please describe what steps, if any, that you would

take, if confirmed, to mitigate the impact that DOE's uranium transfers have had on America's uranium mining, conversion, and enrichment industries. Please be specific.

Answer:
I agree it is important for our country to have a strong domestic uranium industry. If confirmed, I will work to ensure that any uranium transfers continue to comply with applicable statutory obligations and are done in a transparent manner. I will also work to ensure that implications for the domestic uranium industry are examined as part of any future determination on this issue. Finally, I will work across the Department to promote scientific and technical innovation as appropriate in relation to the domestic uranium industry.

Question 7.

In 2008, DOE set forth its Excess Uranium Inventory Management Plan ("Plan"). The Plan was developed in consultation with the Nuclear Energy Institute (NEI), which represents uranium mining, conversion, and enrichment industries as well as electric utilities. After the uranium mining, conversion, and enrichment industries negotiated a compromise with the electric utilities on the question of DOE's excess uranium transfers, NEI made recommendations to DOE for inclusion into its Plan.

Specifically, DOE agreed to gradually release its excess uranium inventories into the market over a period of five years, at which point DOE agreed to limit annual uranium transfers to 5 million pounds or 10 percent of annual domestic fuel requirements. DOE's collaborative approach to disposing of its excess uranium inventories was the principal reason the uranium mining, conversion, and enrichment industries and electric utilities supported the Plan.

If confirmed, will you commit to bringing together the uranium mining, conversion, and enrichment industries as well as electric utilities and restart formal discussions to develop an excess uranium management plan which will be supported by these stakeholders?

Answer:
It is my view that the Department should be open to receiving input from affected stakeholders. If confirmed, I will work to ensure that as future Excess Uranium Inventory Management Plans are developed, the Department has the opportunity to hear from affected stakeholders, including those you mention.

Question 8.

A. If confirmed, will you commit to updating the Committee on a regular basis about the status of the cleanup of the Portsmouth Gaseous Diffusion Plant? B. How much money has DOE spent to date on the cleanup efforts at this site? C. How much money does DOE estimate the remaining cleanup will cost, assuming all of the remaining work is funded with appropriated dollars, in fiscal years 2015, 2016, 2017 and 2018.

Answer:

A. If confirmed, I will update the Committee as requested about the status of the Portsmouth Gaseous Diffusion Plant.

B. I understand that the Department has spent approximately $3 billion through the end of FY2013 on the cleanup of the Portsmouth site.

C. I understand that the FY2015 budget request for Portsmouth is $160 million, which is approximately $24 million above the FY2014 appropriation of $135.8 million. As I am not yet at the Department, I do not have details on the estimated cost of cleanup for fiscal years 2016-2018.

Question 9.

I understand DOE has entered into contracts with other parties to transfer uranium in exchange for cleanup services at the Portsmouth Gaseous Diffusion Plant.

A. When was the most recent contract signed and what period of time does it cover?

Answer:
I understand from the Department of Energy that Flour-B&W Portsmouth was awarded a contract in August 2010, which covers 10 years.

B. Do the contracts include any language that would render them null and void should the Secretary make a finding that any additional uranium transfers would have an adverse material impact on America's uranium mining, conversion, and enrichment industries?

Answer:
As I am not yet at the Department, I do not have access to the details of the contract in question. If confirmed, I will be briefed on the relevant provisions.

SENATOR TIM SCOTT

Question 1.

Will abandoning the MOX project break the Plutonium Management and Disposition Agreement (PMDA) with Russia**?**

Answer:
The PMDA contains provisions to adjust plutonium disposition technologies if both parties agree. Therefore if a disposition pathway other than MOX were pursued by the Administration, the United States and Russia would need to agree to the alternate pathway pursuant to the Plutonium Management and Disposition Agreement.

Question 2.

If the Obama administration abandons the MOX project and pursues one of DOE's alternatives to plutonium disposition as identified in the April 2014 Plutonium Disposition Working Group Report, will a renegotiation of the PMDA be required by the U.S. and Russia?

Answer:
The PMDA contains provisions to adjust plutonium disposition technologies if both parties agree. Therefore if a disposition pathway other than MOX were pursued by the Administration, the United States and Russia would need to agree to the alternate pathway pursuant to the Plutonium Management and Disposition Agreement.

Question 3.

As part of the PMDA, the United States has committed to fund part of Russia's disposition program that includes fast reactors and an international inspection program. To date how much money has the U.S. spent on the Russian program?

Answer: I have been briefed that to date the United States has allocated approximately $260 million in support of the Russia plutonium disposition program. The U.S. funding commitment to Russia's plutonium disposition efforts is primarily for activities relating to bilateral or IAEA confirmation of Russian adherence to the terms of the PMDA. Russia is funding the construction and operation of the major facilities required for its plutonium disposition program.

Question 4.

If the Obama administration abandons MOX and breaks the PMDA, Russia will no longer be bound to PMDA required inspections. Is it possible for Russia to use their fast reactors to produce more weapons grade plutonium?

Answer:

As I stated in my confirmation hearing testimony on July 24, 2014, the United States remains fully and firmly committed to the Plutonium Management and Disposition Agreement with Russia.

Question 5.

Considering your current position as Special Assistant to the President and White House Coordinator for Defense Policy, Countering Weapons of Mass Destruction, and Arms Control, as well as previous positions in the administration, what countries does the Obama administration consider potential buyers of Russian weapons grade plutonium now or in the future? How many of these countries does the U.S. consider State Sponsors of Terrorism?

Answer: I am not currently aware of any potential buyers for Russian plutonium or any Russian plans to sell plutonium.

Question 6.

What steps is the Administration taking to ensure continued inspections of Russia's fast reactors if the PMDA is broken?

Answer: As I stated in my confirmation hearing testimony on July 24, 2014, the United States remains fully and firmly committed to the Plutonium Management and Disposition Agreement with Russia. Absent the PMDA, there are no constraints on Russia's operation of its fast reactors.

Question 7.

At your confirmation hearing on July 24, 2014, you said:

> *"We are fully committed to meeting the obligations we have under the agreement [PMDA] with Russia."*

How does this statement rectify with the Administration's intent to break the PMDA by significantly reducing funding in the President's FY 14 and FY 15 budgets, commissioning a study for alternatives to MOX, and by placing the MOX project on "cold standby?"

Answer:
The Administration is fully committed to disposing of 34 tons of excess weapons grade plutonium as agreed to under the PMDA. The Administration is currently evaluating options to achieve this goal in the most cost effective manner possible, including disposing of plutonium as mixed oxide (MOX) fuel. As I understand it, the Department has been working closely with

the MOX project contractor to determine if there are opportunities to make the current MOX fuel approach for plutonium disposition more efficient in light of significant cost growth and funding challenges. The Department is currently reviewing execution plans for FY-15 work submitted from the MOX contractor with various funding levels and will determine the best path forward. These steps do not contravene our commitments under the PMDA.

Question 8.

At your confirmation hearing on July 24, 2014, you said:

"We should not take any steps that diminish the likelihood of Russia fulfilling its obligations [to PMDA]."

Hasn't the Administration already taken steps that would diminish the likelihood of Russia fulfilling its obligations? In your opinion, how many of the following would qualify as one of these "steps"?

1. Abandoning MOX project
2. Placing MOX in cold standby
3. Significantly reducing the President's budget requests for MOX construction
4. Commissioning a report to seek alternatives to the MOX project

Answer:
As I stated in my confirmation hearing testimony on July 24, 2014, the United States remains fully and firmly committed to ensuring Russia fulfills its obligations to the PMDA. As part of that commitment, the Administration will continue to carefully manage its approach to meeting U.S. plutonium disposition requirements to ensure that Russia continues to uphold its obligations under the PMDA. We have briefed Russia regularly on the status and plans for U.S. plutonium disposition.

Question 9.

At your confirmation hearing on July 24, 2014, you said:

"If there is funding for this project [MOX] that is sustainable over time, this is our preferred solution."

Can I take this statement to mean that the Administration will include full funding—at least $500 million—for the MOX project in the President's FY16 budget so that Congress can meet the President's budget request?

Answer:
The President's FY 2015 budget request stated that the MOX facility would be placed in cold standby beginning in March 2014 while the Department further evaluates plutonium disposition options. However, as I understand it, when the Department of Energy participated in hearings and briefed members of Congress and on the details of the budget request, members from both

parties expressed their strong desire that the Department defer placing the MOX project in cold standby while Congress reviews and evaluates the FY 2015 budget request. In response, the Department did not initiate a transition to cold standby in FY 2014 while Congress is deliberating the FY 2015 budget. The previous fiscal year's budget and appropriations process will be taken into consideration in the development of the subsequent fiscal year's budget request.

Question 10.

How does the ongoing crisis in Ukraine complicate a potential renegotiation of the PMDA with Russia?

Answer:
As I stated in my confirmation hearing on July 24, 2014, the Administration has made a deliberate effort to insulate nuclear security cooperation with Russia from turbulence in other aspects of the U.S.-Russian relationship, as it is in our vital national security interest to ensure that weapons-grade materials do not fall into the wrong hands.

Question 11.

Considering Russia's current disregard for international law and the sovereignty of Ukraine and given the Obama administrations intentions to place the MOX project on cold standby, what specific assurances do you have that Russia will not break the PMDA?

Answer:
The Administration is committed to doing everything that it can to ensure that Russia upholds its obligations under the U.S.-Russia PMDA to dispose of excess weapons grade plutonium. This is a vital national interest of the United States.

FROM SENATOR JOHN HOEVEN

Question 1.

The Department of Energy has invested more than $15 million in technology development in North Dakota that has achieved remarkable success in developing proprietary silicon based technologies, including the only economically feasible and scalable pathway to liquid silicon (hydrosilanes) materials that is seen as a potentially disruptive technology for the solar cell, printed electronics, and lightweight battery markets. This program is scheduled to end in June of 2015. In addition, this program has also developed promising 'green' technologies, also based on silicon, for processible high refractive index polymers with strong potential to impact markets based on light emitting diodes, lithography and image sensors. The underlying technology is proprietary and available only in the USA. Does the DOE plan to extend and expand this program and to be a partner in the efforts to scale up and commercialize the process?

Answer:
The Department of Energy plays a critical role in supporting research and partnering in efforts to scale up and commercialize breakthrough energy technologies. I am not yet familiar with the specifics of the liquid silicon (hydrosilanes) materials, but if confirmed, I look forward to learning more about this technology and exploring what more can be done to assist this effort.

Question 2.

The Department of Energy has invested more than $10 million to foster the initiation and growth of a Center for Computationally Assisted Science and Technology in North Dakota that focuses on energy related issues in the Upper Midwest. The center meets the needs of hundreds of faculty, students and researchers in their efforts to understand the complex water, soil, coal, gas and oil issues confronting the Upper Midwest, especially North Dakota Does the Department of Energy plan to assist in bringing that center to maturity?

Answer:
I am aware that promoting the advancement of computational science is an important mission of the Department. If confirmed, I look forward to learning more about the work of this Center and to exploring what more can be done to support its efforts.

JOINT QUESTIONS
FROM SENATORS WYDEN, RISCH, AND CANTWELL

Question 1.

Two of the bedrock principles for power in the Northwest are that the Bonneville Power Administration must continue to govern its own affairs, and that it has direct access to the top levels at the Department of Energy. Historically this means that BPA reports directly the Deputy Secretary. Earlier actions by this Administration called into question its support for the regional autonomy of BPA, but I've been encouraged by Secretary Moniz' response in light of the issue with hiring veterans at BPA, and the clear trajectory that DOE and BPA are now on to return full control back to BPA as that issue has been resolved.

a) In your new capacity, will you commit that, before proposing any legislative or administrative actions which could affect the power and transmission operations of BPA, you will first discuss and vet those ideas with me and my colleagues from the Pacific Northwest and a broad range of regional stakeholders?

Answer:
If confirmed, I commit to working collaboratively with the three of you, other members of Congress, and regional BPA stakeholders on any major actions impacting BPA.

b) Will you commit to continuing to have BPA and the other power marketing authorities report directly to you as Deputy Secretary?

Answer:
I understand that all Power Marketing Administrations currently report directly to the Deputy Secretary. It is my understanding that Secretary Moniz intends to continue this reporting arrangement if I am confirmed.