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ELKIND AND REGALBUTO NOMINATIONS

HEARING

BEFORE THE

COMMITTEE ON ENERGY AND NATURAL RESOURCES UNITED STATES SENATE

ONE HUNDRED FOURTEENTH CONGRESS

FIRST SESSION

TO

CONSIDER THE NOMINATIONS OF JONATHAN ELKIND, TO BE AN ASSISTANT SECRETARY OF ENERGY (INTERNATIONAL AFFAIRS) AND MONICA C. REGALBUTO, TO BE AN ASSISTANT SECRETARY OF ENERGY (ENVIRONMENTAL MANAGEMENT)

JUNE 16, 2015

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CONTENTS

OPENING STATEMENTS

	Page
Murkowski, Hon. Lisa, Chairman, and a U.S. Senator from Alaska	1
Cantwell, Hon. Maria, Ranking Member, and a U.S. Senator from Washington	2

WITNESSES

Elkind, Jonathan, Nominee to be an Assistant Secretary of Energy (International Affairs)	6
Regalbuto, Dr. Monica C., Nominee to be Assistant Secretary of Energy (Environmental Management)	12

ALPHABETICAL LISTING AND APPENDIX MATERIAL SUBMITTED

Cantwell, Hon. Maria	
Opening Statement	2
Written Statement	4
Elkind, Jonathan	
Opening Statement	6
Written Testimony	9
Responses to Questions for the Record	53
Murkowski, Hon. Lisa	
Opening Statement	1
Regalbuto, Dr. Monica C.	
Opening Statement	12
Written Testimony	14
Responses to Questions for the Record	38

TO CONSIDER THE NOMINATIONS OF JONATHAN ELKIND TO BE AN ASSISTANT SECRETARY OF ENERGY (INTERNATIONAL AFFAIRS) AND MONICA C. REGALBUTO TO BE AN ASSISTANT SECRETARY OF ENERGY (ENVIRONMENTAL MANAGEMENT)

TUESDAY, JUNE 16, 2015

U.S. SENATE,
COMMITTEE ON ENERGY AND NATURAL RESOURCES,
Washington, DC.

The Committee met, pursuant to notice, at 10:09 a.m. in room SD–366, Dirksen Senate Office Building, Hon. Lisa Murkowski, Chairman of the Committee, presiding.

OPENING STATEMENT OF HON. LISA MURKOWSKI, U.S. SENATOR FROM ALASKA

The CHAIRMAN. I call to order the Energy Committee hearing this morning. We are here today to consider two of the President's nominees for the Department of Energy.

Mr. Jonathan Elkind has been nominated to be the Assistant Secretary of International Affairs. He currently serves as the Principle Deputy Assistant Secretary for that office.

Dr. Monica Regalbuto has been nominated to be the Assistant Secretary for Environmental Management. She currently serves as the Principle Deputy Assistant Secretary for that office.

Both of these nominees appeared before our Committee during previous Congresses. We favorably reported both nominations on a timely basis but neither nomination received a vote on the Floor last year.

Mr. Elkind and Dr. Regalbuto, I welcome you both back to the Committee and appreciate not only your continued willingness to serve but also to do so in the face of delay.

After legislative hearings in this Committee featuring 22, 22, 26 and then 42 energy related bills, our agenda today may seem considerably lighter or at least easier to digest and easier to report on. Our obligation to provide advice and consent to the President under the appointment's clause of the Constitution is no less important than discharging our legislative responsibilities, so hearings on nominations, of course, are also part of our work.

The decisions that are made by individuals in the Administration and positions subject to Senate confirmation often have lasting effects on our nation. The decisions of the nominees before us today

will be no exception. The positions for which they have been nominated are important within DOE, capable of affecting everything from our international relations to the cleanup of nuclear waste.

Your nominations are helped by the fact that Secretary Moniz has shown himself to be someone who will work with us and who we can work with, even if we do not always agree with him. Not only has Secretary Moniz made himself available to testify before the Committee to provide us briefings, he has also responded to our questions both in Committee and out. He has directed many other DOE officials to do the same.

I greatly appreciate the level of communication that we have had back and forth between the Department of Energy, my office and this Committee.

Mr. Elkind and Dr. Regalbuto, I trust that if you are confirmed you will continue the positive relationship between the Department of Energy and this Committee.

I would also note this hearing offers an opportunity for you to hear what is important to us. We expect that you will take that back to DOE with you and that you will work with us if confirmed.

I turn now to my Ranking Member and then we will swear the individuals in and proceed with the hearing.

STATEMENT OF HON. MARIA CANTWELL,
U.S. SENATOR FROM WASHINGTON

Senator CANTWELL. Thank you, Chairman Murkowski, for calling this hearing and for having these qualified nominees before us today.

Dr. Regalbuto has been nominated to lead the Department's Office of Environmental Management. The office is responsible for cleanup of the environmental contamination that resulted from five decades of nuclear weapons production. This is an extremely critical assignment, not only for the importance of cleaning up these sites but for the complexity of the undertaking and the sheer scale of the problem.

The Office of Environmental Management counts for about one-fifth of the Department's nearly $30 billion annual budget. This program is especially important to the State of Washington which is the home to the Hanford site, which is the largest, most complex and most expensive of all of the Department's cleanup sites.

Dr. Regalbuto is extremely qualified for this position. She holds a doctorate degree, and for the past 15 years, she has held increasingly senior positions at Argonne National Laboratories and within the Department of Energy's Office of Nuclear Energy and Office of Environmental Management. For the past year, she has been the Principal Deputy Assistant for Environmental Management.

I will have some very important questions for you today about both tank vapors and our process moving forward and the 324 building on the site, and I look forward to hearing your responses on that.

I also want to welcome Dr. Elkind, who has been nominated to lead the Department's Office of International Affairs. This, too, is an extremely important position, responsible for the Department's International Energy Policy and International Cooperation in En-

ergy, Science and Technology. I look forward to asking him questions, as well.

Thank you, Madam Chair, for this important nominations hearing.

[The statement of Ranking Member Maria Cantwell follows:]

OPENING STATEMENT OF SEN. MARIA CANTWELL

SENATE ENERGY & NATURAL RESOURCES COMMITTEE

HEARING ON DOE NOMINATIONS

Tuesday, June 16, 2015

Thank you, Chairman Murkowski, for calling this long overdue hearing on these highly qualified nominees for two very important positions at the Department of Energy.

Dr. Regalbuto has been nominated to lead the Department's Office of Environmental Management. The Office is responsible for cleaning up the environmental contamination that resulted from five decades of nuclear weapons production. This is an extremely critical assignment, not only for the importance of cleaning up these sites, but for the complexity of the undertaking, and the sheer scale of the problem. The Office of Environmental Management accounts for about one-fifth of the Department's nearly $30 billion annual budget.

The program is especially important to my state, which is home to the Hanford Site, which is the largest, most complex, and most expensive of all of the Department's cleanup sites.

Dr. Regalbuto is extremely well qualified for this position. She holds a doctorate in chemical engineering. For the past 15 years, she has held increasingly senior positions at the Argonne National Laboratory and within the Department of Energy's Office of Nuclear Energy and Office of Environmental Management. For the past year, she has been the Associate Principal Deputy Assistant Secretary for Environmental Management. She plainly has the skills, training, and experience needed for this important position.

Dr. Elkind has been nominated to lead the Department's Office of International Affairs. This, too, is an extremely important position. It is responsible for managing the Department's international energy policy and international cooperation in energy, science, and technology.

Dr. Elkind has worked in this field for over 25 years, at the Council on Environmental Quality, the Vice President's Office, the National Security Council, and the Brookings Institution. For the past 6 years, he has been at the Department of Energy, where he now serves as the Principal Deputy Assistant Secretary of Energy for International Affairs. Like Dr. Regalbuto, Mr. Elkind is well qualified for the position to which he has been nominated.

Neither of these nominees is new to the Committee. Mr. Elkind was first nominated for his position nearly two years ago, in October 2013. The Committee held a hearing on his nomination in December 2013 and favorably reported his nomination in January 2014.

Dr. Regalbuto was first nominated for her position over a year ago, in March 2014.

Both this Committee and the Armed Services Committee, which shares jurisdiction with us over her nomination, held hearings on her nomination last year and favorably reported her nomination last June.

Once again I appreciate your scheduling this hearing this morning, Madam Chairman, and I hope we might follow it with a markup to report them in the very near future. The office of Assistant Secretary for International Affairs has been vacant for two years and the office of Assistant Secretary for Environmental Management has been vacant for nearly four years. We have two well qualified nominees for these vacancies and we should confirm them without any further delay.

Finally, I want to offer a warm welcome to both nominees.

Thank you, Madam Chairman.

The CHAIRMAN. Thank you, Senator Cantwell.

Mr. Elkind and Dr. Regalbuto, the rules of the Committee which apply to all nominees require that they be sworn in connection with their testimony. So I would ask that you both please rise and raise your right hand?

Do you solemnly swear that the testimony you are about to give to the Senate Committee on Energy and Natural Resources shall be the truth, the whole truth and nothing but the truth?

Mr. ELKIND. Yes.

Dr. REGALBUTO. Yes.

The CHAIRMAN. Before you begin your statement I will ask three questions addressed to each nominee before this Committee.

Will you be available to appear before this Committee and other Congressional Committees to represent Departmental positions and respond to issues of concern to Congress?

Mr. ELKIND. Yes.

Dr. REGALBUTO. Yes.

The CHAIRMAN. Are you aware of any personal holdings, investments or interests that could constitute conflict or create the appearance of such a conflict should you be confirmed and assume the office to which you have been nominated by the President?

Mr. ELKIND. No.

Dr. REGALBUTO. No.

The CHAIRMAN. Are you involved or do you have any assets held in blind trust?

Mr. ELKIND. No.

Dr. REGALBUTO. No.

The CHAIRMAN. Thank you both.

Mr. Elkind, let us begin with you if you would like to provide five minutes of comments to the Committee and then Dr. Regalbuto.

I would also welcome either of you to introduce any family members that you may have with you. We all know that these jobs are not easy jobs. They require a lot of time, and the support of family is always nice. So it is good to be able to recognize them. When it is your time to proceed, if you would like to introduce your family we would certainly be happy to recognize them.

Mr. Elkind, we will begin with you.

STATEMENT OF JONATHAN ELKIND TO BE ASSISTANT SECRETARY OF ENERGY (INTERNATIONAL AFFAIRS)

Mr. ELKIND. Thank you so much, Chairman Murkowski, Ranking Member Cantwell, members of the Committee. I'm glad for the opportunity to appear today as you consider my candidacy to be the Assistant Secretary of Energy for International Affairs. I'm honored to have been nominated again for this post by President Obama and deeply appreciate the continuing confidence that he and Secretary Moniz have expressed by asking me to serve in this capacity.

I would like to introduce and thank my wife of 27 years, Suzanne Mintz, as well as two of our three sons, Sam and Noah. My wife and sons, indeed as you note, Chairman Murkowski, understand that government service is an endeavor that affects not only the person serving, but also the entire family.

The CHAIRMAN. Welcome.

Mr. ELKIND. Thank you.

In 2009 I was appointed as Principle Deputy Assistant Secretary for Policy and International Affairs. This was my second tour with the Department but by coincidence my family's prior ties to DOE go back to my childhood. My father was a cancer researcher who spent portions of his career at Brookhaven and Argonne National Laboratories. The fact that I'm with you today, however, had more to do with my parents overall attitudes about career choice then with the particulars of my dad's careers.

When I was an undergraduate my parents counseled me to find a professional niche that I felt passionate about, a place where I would want to make a contribution. Applying that guidance, for over 25 years now I have focused on international energy issues. I've worked inside the government under Presidents George H.W. Bush, Bill Clinton and Barack Obama. I've also worked as a private sector energy consultant and as a think tank researcher.

From these experiences I know how important it is for the United States to work effectively on energy issues with our foreign partners. We need strong ties that allow us to understand where markets are heading and where there are opportunities for U.S. businesses and where there breakthroughs and flash points can emerge.

Exactly on these fronts DOE has made and is making contributions that enhance the ability of the United States to achieve the energy outcomes that we need and desire. We apply knowledge of energy technologies, markets and policies to pursue U.S. objectives in international energy security, clean energy development and national security issues. We provide leadership on critical energy security engagements around the globe. We help address energy opportunities, challenges and in some cases, crises.

Some examples include the following:

Ukraine. Since the start of Russia's aggression the energy dimensions of the crisis in Ukraine have required careful attention and strong engagement. Ukraine needs assistance with effective energy planning, and my team has mobilized technical expertise to assist Kiev and to reduce its monopoly or near monopoly reliance on Russia for certain fuels. Moreover since the G7 Leaders Summit last year we have lead U.S. efforts to develop a collective energy security agenda among G7 partners and the European Union.

Israel. Few countries face the particular energy challenges that Israel does, so we engage with Israel on critical issues like energy infrastructure protection, natural gas technical workshops, energy storage and the energy/water nexus. We aim to help Israel enhance its energy security, and to that end we conduct annual meetings as well as more frequent workshops and seminars.

The Western Hemisphere. Some of the most important changes in the entire energy world are happening within our own hemisphere. In light of this it is natural that we have significantly intensified our engagements with Mexico and Canada, with Caribbean partners and with others in the hemisphere seeking to engage in the spirit of all of the above in collaborations based on good technology, sound economics and strong environmental performance.

Last, the energy/water nexus. We have started to expand our collaborations on the numerous and critical linkages between our energy and water systems. Many foreign partners seek to work with

DOE to understand both the technical and the policy dimensions of these linkages.

For example, how to develop shale gas in water scarce regions. This is a key emerging area, an area where the United States stands to benefit from providing leadership.

If I am fortunate enough to be confirmed by the Senate, these are the kinds of areas that will be my focus. I also look forward to working with this Committee to identify other opportunities to advance our energy objectives. I hope to secure your support so that I may have this opportunity.

Thank you.

[The prepared statement of Mr. Elkind follows:]

Statement of
Jonathan Elkind

Nominee to be
Assistant Secretary for International Affairs
U.S. Department of Energy

Before the Committee on Energy and Natural Resources
United States Senate

June 16, 2015

Chairman Murkowski, Ranking Member Cantwell, Members of the Committee: I am grateful for the opportunity to appear today as you consider my candidacy to be the Assistant Secretary of Energy for International Affairs.

I am honored to have been nominated again for this post by President Obama. I also deeply appreciate the continuing confidence that Secretary Moniz has expressed by asking me to serve in this capacity.

I would like to introduce and thank my wife of twenty seven years, Suzanne Mintz. She understands all too well that government service is an endeavor that affects not only the person serving, but also his or her family.

In 2009, I was appointed as the Department of Energy's (DOE) Principal Deputy Assistant Secretary for Policy and International Affairs. This was my second professional association with the Department, but by coincidence my family's prior ties to DOE go back to my childhood. My father was a researcher who worked on cancer treatment and carcinogenesis. He spent portions of the 1960s and 1970s at the Brookhaven and Argonne National Laboratories that are now operated by DOE – in those days by the Atomic Energy Commission and later the Energy Research and Development Agency.

The fact that I am before you today, however, had more to do with my dad's attitudes about career choice than with the mere fact that I have known DOE and its precursors since childhood. When I was an undergraduate, my dad counseled me to find a professional niche that I felt passionate about, a place where I would *want* to make a contribution because of my own fascination with the issues at hand. Whether I made that contribution as a business person, an academic, or a government official wasn't central. His advice was essentially: Do what you love, and love what you do.

For a little more than twenty-five years, I have focused on international energy issues with that backdrop. I first worked on energy and environment issues in the federal government when I served at the Council on Environmental Quality under President George H.W. Bush. I served subsequently through the 1990s at positions in the Department of Energy, the Office of the Vice

President, and the National Security Council staff. Later, I worked as a private energy consultant and a senior fellow at the Brookings Institution.

From these experiences, I know how important it is for the United States to work effectively with international partners on energy issues. We need strong international partnerships that allow us to understand where markets are heading, where there are opportunities for U.S. businesses, and where breakthroughs and flash points can emerge.

I am proud of the progress we have made on many of these fronts during my current tenure at the Department, because DOE's International Affairs (IA) team has made and is making critical contributions that enhance the ability of the United States to achieve the outcomes that we need and desire in collaboration with international partners.

IA applies knowledge of energy technologies, markets, and policies to pursue U.S. objectives in international energy security, clean energy deployment, and national security. IA is responsible for leading the Department and Administration's response to critical energy security commitments across all major regions, sectors and technologies. IA leads in addressing energy challenges and in some cases crises around the globe, as well as capitalizing on growing opportunities for addressing multilateral technology cooperation. Some examples include:

Ukraine: The energy dimensions of the crisis in Ukraine continue to require careful attention and strong engagement. Ukraine needs sustained help on energy planning, including technical expertise that exists within DOE and increased dialogue with our counterparts in Ukraine. IA has already led several delegations of energy systems experts to Kyiv to assist Ukraine in its energy planning efforts, including by enabling it to reduce the country's monopoly or near-monopoly reliance on Russia for certain fuels. Moreover, in response to the start of the crisis last year, and following the President's G-7 Leaders Summit in June 2014, IA has been asked to lead U.S. efforts to develop a collective energy security agenda among G-7 partners and the European Union.

U.S.-Israel energy cooperation has been another important example of IA's on-going work. We conduct annual U.S.-Israel energy meetings that address topical questions like critical energy infrastructure protection, natural gas technical workshops, and Israel's growing interest in collaborating on energy storage and energy-water nexus issues. These annual meetings are a central part of the United States' engagement with Israel on energy matters, and they are a priority for the Department.

Western Hemisphere engagements: Some of the most important changes to the energy world are happening in our own hemisphere. In light of this it is natural that we have significantly intensified our engagements with North American partners in Mexico and Canada, with Caribbean partners trying to enhance their energy security, and with others in the hemisphere who wish to engage on an agenda that thinks about technology in a spirit of "all of the above" and seek collaborations based on good technology, strong environmental performance, and sound economics. We are working with Caribbean partners to advance the Vice President's Energy Security Summit through events like DOE's Clean Energy Technology Symposium in St. Thomas, U.S. Virgin Islands. The energy secretaries (or minister) of North America have

activated a trilateral channel that enables us to think at continental scale about the many issues that don't stop at the U.S. borders with Canada and Mexico.

Energy-Water Nexus: Last, we have started to expand our collaborations with key countries on the linkages between energy and water. Many countries are eager to work with the United States, and with DOE in particular, to address the technical and policy implications of their interconnected energy and water systems. This is an important emerging area, where the United States stands to benefit from providing leadership that enables such increased international cooperation.

If I am fortunate enough to be confirmed by the Senate, these are the kinds of areas that will be my focus. I also look forward to working with this Committee to identify additional opportunities to advance our energy economy. I hope to secure your support so that I might have that opportunity.

The CHAIRMAN. Thank you, Mr. Elkind.

Dr. Regalbuto, welcome.

STATEMENT OF DR. MONICA C. REGALBUTO TO BE ASSISTANT SECRETARY OF ENERGY (ENVIRONMENTAL MANAGEMENT)

Dr. REGALBUTO. Thank you.

Chairman Murkowski, Ranking Member Cantwell and members of the Committee, I appreciate the opportunity to appear before you today as President Obama's nominee for Assistant Secretary for Environmental Management at the United States Department of Energy.

I would like to begin my statement by expressing my gratitude to the President for the confidence in me that he has demonstrated in his nomination. I am honored and humbled to be here, and should I be confirmed I will do my best to meet that confidence. I would also like to thank Secretary Moniz for his support and for his leadership at the Department of Energy.

Professional achievement is seldom an individual effort. I have had the privilege of working with a multitude of talented people throughout my career as a chemical engineer. There are countless family members, friends, mentors and colleagues who have done so much over the years to make this day possible.

I want to especially thank and recognize my husband, John, for always being supportive and patient and for my adult children, Ricky, Carol and Robby, who are now on their ways to productive careers. I am very proud of them.

Lastly I would not be here without the loving support of my parents, Horacio and Conchita, for instilling in me great values during my childhood and for my parents-in-law, who I consider my second set of parents.

Madam Chair, after completing my Ph.D. at the University of Notre Dame I joined Argonne National Laboratory in 1988. I began my career supporting the development of technologies for the treatment of high-level waste at the Department of Energy Plutonium Production sites.

After developing strong technical skills, I joined BP–AMOCO in 1996 where I enhanced my skills in managing complex projects, large projects and multidisciplinary staff in an industrial setting.

I returned to Argonne in 2001 and became the Head of the Process Chemistry and Engineering Department where I worked on new technologies for the treatment of used nuclear fuel.

In 2008, I had the unique opportunity to join the Department of Energy, Office of Environmental Management where I served as a Senior Program Management supporting their strategic mission in the waste processing area.

In 2010 I accepted a position as the Deputy Assistant Secretary for Fuel Cycle Technologies within the Office of Nuclear Energy. In this position, I was responsible for directing the research and development program involving 10 national laboratories, 33 universities and over 400 scientists and 300 professors.

I moved back to the Office of Environmental Management in June of 2014 as the Associate Principle Deputy Assistant Secretary. In this capacity I am responsible for leading EM's mission

units and advancing EM's mission cleanup across the DOE complex.

Madam Chair, the Manhattan Project was a critical component of our success in World War II and the Cold War. The communities and regions that were home to these sites have made significant sacrifices for our nation and the cleanup mission of the Environmental Management Program is both a legal and a moral obligation.

I would like to mention a few of the important projects I have worked on in the past year.

I have been involved in the recovery efforts of the Waste Isolation Pilot Plant (WIPP) in New Mexico. We mapped out an ambitious recovery plan and we're making substantial progress. We recently completed the interim closing of panel six and panel seven, room seven, activities necessary to isolate the nitrate salt bearing waste of the WIPP underground. And the Department remains committed to opening the facility.

At Savannah River, workers at the Defense Waste Processing Facility (DWPF) marked a milestone for the site's liquid waste work. Since beginning operations in 1996, DWPF has poured more than 15 million pounds of glass and has immobilized more than 55 million curies of radioactivity.

Additionally, there are numerous ongoing projects that address critical cleanup issues across the complex such as the demolition of K31 building at Oak Ridge, demolition of the vitrification facility and main process building at West Valley and removal of approximately 680 pounds of chromium from the ground water near the Columbia River at Richland.

The EM footprint has been reduced by 90 percent since 1989, but some of our biggest challenges remain ahead. Safe retrieval and treatment of Hanford tank waste is a critical part of EM's mission. In addition, completion of tank waste immobilization is an important element of the environmental legacy cleanup at Idaho.

Many priorities remain. Much is going on in cleanup work at Paducah and Portsmouth, and I look forward to tackling these challenges if I am confirmed.

I believe my background, experience and commitment have prepared me to lead the Office of Environmental Management during this particular critical time, and I welcome the opportunity to continue my service to the nation as Assistant Secretary for EM.

If confirmed, I pledge to work closely with this Committee and others in Congress to ensure that we continue the safe cleanup of the nation's Cold War environmental legacy.

Madam Chair, thank you again for the opportunity to appear before you and your Committee today. I look forward to answering any questions you and your Committee members may have.

Thank you.

[The prepared statement of Dr. Regalbuto follows:]

Statement of
Dr. Monica C. Regalbuto

Nominee to be
Assistant Secretary for Environmental Management
U.S. Department of Energy

Before the Committee on Energy and Natural Resources
United States Senate

June 16, 2015

Chairman Murkowski, Ranking Member Cantwell, and Members of the Committee: I appreciate the opportunity to appear before you today as President Obama's nominee for Assistant Secretary for Environmental Management at the United States Department of Energy.

I would like to begin my statement by expressing my gratitude to the President for the confidence in me that he has demonstrated in his nomination. I am honored, and humbled to be here, and should I be confirmed, I will do my best to meet that confidence.

I would also like to thank Secretary Moniz for his support and for his leadership of the Department of Energy.

Professional achievement is seldom an individual effort. I have had the privilege of working with a multitude of talented people throughout my career as a chemical engineer. There are countless family members, friends, mentors and colleagues who have done so much over the years to make this day possible.

I want to especially thank and recognize my husband John for always being supportive and patient and to my adult children, Ricky, Carol, and Robby, who are now on their own ways to productive careers. I am very proud of them. Lastly, I would not be here without the loving support of my parents, Horacio and Conchita, for instilling in me great values during my childhood, and for my parents-in-law whom I consider my second set of parents.

Madam Chair, I began my studies in Mexico where through the great economic sacrifice of my family, I attended private schools which offered a better education. In high school, I discovered an intense interest and gift in math and science, and I started college seeking a degree in chemical engineering and computer science at Monterrey Tech (ITESM). At the time there were very few women in engineering with limited job opportunities. This reality has heavily influenced me, and as such I have always supported and led efforts that substantially enhanced employment of and opportunities for women and minorities. I met my husband John while I was

a student and eventually married him and moved to the United States and proudly acquired my U.S. citizenship.

After completing my Ph.D. at the University of Notre Dame, I joined Argonne National Laboratory in 1988. I began my career supporting the development of technologies for the treatment of high-level waste at the Department of Energy plutonium production sites. After developing strong technical skills, I joined BP-AMOCO in 1996, where I enhanced my skills at managing complex projects, large budgets, and a multi-disciplinary staff in an industrial setting. I returned to Argonne in 2001, and became the Head of the Process Chemistry and Engineering Department where I worked on new technologies for the treatment of used nuclear fuel.

In addition, I was invited by the Massachusetts Institute of Technology to be part of its three-year Fuel Cycle Study Team. The study was published in 2010 and considers economics, risk, nonproliferation, institutional structures and technology readiness in meeting U.S. energy and environmental needs. My participation in the study not only allowed me to gain experience working with high level officials and nongovernment organizations, but brought to my attention the need for the safe, permanent disposal of all types of radioactive wastes.

In 2008, I had the unique opportunity to join DOE's Office of Environmental Management, where I served as a senior program manager supporting their strategic mission in the waste processing area.

In 2010, I accepted a position as the Deputy Assistant Secretary for Fuel Cycle Technologies within the Office of Nuclear Energy. In this position I was responsible for directing the research and development program involving 10 national laboratories, 32 universities, and over 400 scientists and 300 professors.

I moved back to the Office of Environmental Management in June 2014 as the Associate Principal Deputy Assistant Secretary. In this capacity, I am responsible for leading EM's mission units to advance EM's cleanup mission across the DOE complex.

One of our Nation's biggest challenges remains to ensure the public that the Government is able to fulfill its responsibility regarding the timely handling and cleanup of the nuclear waste originated from both its defense and civilian programs.

Madam Chair, the Manhattan Project was a critical component of our success in World War II and the Cold War. The communities and regions that were home to these sites have made sacrifices for our Nation, and the cleanup mission of the Environmental Management program is both a legal and moral obligation.

During my time at Argonne National Laboratory and now at DOE, I have watched as EM completed 91 sites and has made significant progress at the remaining 16. The Environmental Management program has before it some of the most complex, challenging cleanup work, and

accomplishing our goals will mean applying innovative strategies to one-of-a-kind challenges -- all while ensuring that work is completed safely.

I'd like to mention a few of the important projects I have worked on in the past year. I have been involved in the recovery efforts at the Waste Isolation Pilot Plant (WIPP) in New Mexico. We mapped out an ambitious Recovery Plan and we are making substantial progress. We recently completed the interim closure of Panel 6 and Panel 7, Room 7, activities necessary to isolate nitrate salt bearing waste in the WIPP underground. The Department remains committed to reopening the facility.

At Savannah River, workers at the Defense Waste Processing Facility marked a milestone for the site's liquid waste work. Since beginning operations in 1996, DWPF has poured more than 15 million pounds of glass and has immobilized more than 55 million curies of radioactivity. We are also working on construction of a Salt Waste Processing Facility in South Carolina.

Additionally, there are numerous ongoing projects that address critical cleanup issues across the complex, such as: (1) demolition of the K-31 building at Oak Ridge, (2) demolition of the Vitrification Facility and Main Process Building at West Valley, and (3) removal of approximately 680 pounds of chromium from the groundwater near the Columbia River at Richland.

The EM footprint has been reduced by about 90 percent since 1989, but some of our biggest challenges lie ahead. Safe retrieval and treatment of Hanford's tank waste is a critical part of the EM mission. In addition, completion of tank waste immobilization is an important element of the environmental legacy cleanup at Idaho. Many priorities remain, such as ongoing cleanup work at Paducah and Portsmouth, and I look forward to tackling these challenges if I am confirmed.

I believe my background, experience, and commitment have prepared me to lead the Office of Environmental Management during this particularly critical time, and I welcome the opportunity to continue my service to the Nation as Assistant Secretary for EM. If confirmed, I pledge to work closely with this Committee and others in the Congress to ensure that we continue the safe cleanup of the Nation's Cold War environmental legacy.

Madam Chair, thank you again for the opportunity to appear before you and your Committee today. I look forward to answering any questions you and the Committee Members may have.

The CHAIRMAN. Thank you, Dr. Regalbuto.

Mr. Elkind, let me begin with you. At your confirmation hearing last Congress I asked you about oil and gas exports. You said to me, and I will quote your statement: "It's a very important issue. It's one that has my full attention in my current role. If I am confirmed, please rest assured that this is something that will be very, very much a focus that I will be watching very closely."

Those were your words back in December of '13. We are now here in June of 2015. We have seen studies in this intervening time period from EIA, CBO, GAO, Columbia University, Rice University, Harvard Business School, Brookings Institute, Aspen Institute, and many more.

I know that the licensing of exports goes through the Commerce Department so I understand the jurisdictional issues here, but I am asking you, as the Assistant Secretary of International Affairs, really more as a subject matter expert, if not a regulator, a very direct and a very limited question. Would U.S. allies welcome the option to purchase American crude oil?

Mr. ELKIND. Thank you, Madam Chair, for that question.

As I said in December of '13, I still believe very much now it is a terribly, terribly important set of issues, and I am well aware of the focus that this has had under your Chairmanship and before. I'm well aware of the analysis that has been conducted by this Committee including the most recent piece entitled, Rendering Vital Assistance.

As you will be aware, of course, the United States, today, remains a major importer of crude oil, seven million barrels a day. It's a market change from where we were as recently as six or seven years ago when our imports were at a level of ten and a half million barrels a day. Similarly we have already seen reductions of about two million barrels a day in total consumption by the United States.

So it is in fact the case today already that our allies, our friends and others in the single global oil market are seeing benefits that come from the very dramatic increases in U.S. oil production and from the reduced consumption. There is simply more oil available on the market.

The CHAIRMAN. Again, my question is pretty limited. Do you think that our friends and allies would welcome the opportunity to be able to purchase American crude?

Mr. ELKIND. Madam Chair, I believe that our friends and allies are already seeing benefits that have come from the changes that have taken place in our production and our demand for oil, so I believe that benefits are already accruing.

The CHAIRMAN. Let me ask more specifically as to what is going on with the negotiations with Iran. DOE, of course, is actively involved in the negotiations with Iran. We have seen Secretary Moniz directly with Secretary Kerry in many of these discussions. I have argued that we should not lift sanctions on Iranian oil while at the same time we effectively maintain the export ban on American oil which, in my view, is akin to sanctions on U.S. oil producers. Can you commit to me that DOE will consider the consequences for American producers of any sort of deal on Iran sanctions?

Mr. ELKIND. Chairman Murkowski, I certainly can commit to you that all of the implications both on the non-proliferation side and on the oil market side are being very, very carefully considered and will be considered in the weeks ahead.

The CHAIRMAN. Let me ask about the Arctic then. When you look at international scientific cooperation really the Arctic is this emerging area where, I think, it is clear we need to see greater cooperation. Many of the research needs in the region cross political border or are in more international spaces.

What level of cooperation does DOE have through the Office of International Affairs with other Arctic nations including Russia on Arctic research and what can we do to build that out even further?

Mr. ELKIND. Thank you again for the question. It is a very important time indeed for a focus on the Arctic in that the United States has just this year assumed a two year Chair of the Arctic Council, as you will be well aware. That role is led by the State Department, Admiral Papp. We at DOE, however, participate very actively in the energy-related discussions that go on in that context.

You'll be aware, I believe, that the National Petroleum Council was asked by Secretary Moniz to engage in a study looking at issues surrounding prudent development of energy in the Arctic and those results were released about six weeks ago.

We're also engaged in some very interesting collaborations at an early stage with our Canadian and also with our Mexican colleagues. I alluded to the very dramatic changes that have been happening in the North American context and that also includes our neighbors to the North and the South.

We are interested in looking at energy systems for isolated communities. It is just as applicable in a village setting in Alaska or in the Canadian North as it is in places elsewhere around the world far away in Africa, in South Asia.

The key is to focus on cost reductions for hybrid renewable and fossil fuel energy systems and microgrids. This is an area where we see lots of opportunity for productive international collaborations, and it's something that, we think, has a lot of promise, not only in the North American context, but also elsewhere.

The CHAIRMAN. We would certainly agree with that, and we would invite you to come up to Alaska to see some of the very innovative things that we are doing just with the microgrids.

Mr. ELKIND. Please tell me where I sign.

The CHAIRMAN. I will let you know. Fishing season is on.

Senator Cantwell.

Senator CANTWELL. Thank you, Madam Chair.

Dr. Regalbuto, obviously worker safety is paramount out at Hanford. One of the issues is tank farm safety, particularly as it relates to vapors. I know you are aware of the Savannah River National Laboratory report on tank vapors and worker exposure.

I want to ask you about whether DOE will be taking action within the next year to provide protective equipment and detection devices for the workforce there?

Dr. REGALBUTO. Thank you for your question, Senator. We do share the fact that the number one priority for the Department of Energy and for myself is the protection of the workers, followed by

the protection of the facilities where they work. It is imperative that we provide an environment where the workers go home the same way they came in.

I am aware of the vapor issue at Hanford, and it is a very important issue to me.

I'm aware of the Savannah River report, and we are in the process of implementing the recommendations of the report. We're actually looking at ways to institutionalize many of these recommendations so that the lessons learned don't change on a day-to-day or as conditions in the tanks change.

We look forward to bringing that protection equipment to the workers, as specifically PPE, that is lighter, allowing the workers to work more efficiently and allow us to continue our retrievability schedule for the tanks. But we certainly will not do that unless we can do that safely.

There are a number of new areas that we would like to explore in terms of worker protection, and that is what is called the science of safety in which we actually bring, as part of our technology development program, new activities where we can actually enhance the quality of the workers as they conduct their day-to-day operations.

So if confirmed I look forward to continue to working with you and briefing you in subjects that will allow us to institutionalize our worker safety protection throughout the complex, not just at Hanford.

Senator CANTWELL. Well, thank you for saying that you are implementing lighter protective equipment and detective devices. I will look for a written response from you on exactly when you think the timing of that is because we want that done as soon as possible. I am not going to pin you to a specific date, but if you provide us that information—we are holding the Secretary accountable to this timeframe.

On the 324 building, it is one of the most significant cleanup projects left at Hanford due to its high level of radioactivity and proximity to the Columbia River. I have been assured many times that this material has not seeped into the soil beneath, into the ground water and that we will be able to get this cleanup done in time. Can you give me some specificity about the remediation on that contamination and the timeframe in which that will happen?

Dr. REGALBUTO. Thank you for your question, Senator. Building 324 is definitely one of our buildings that is in the high risk category in addition to other facilities that I'm sure you're very familiar with, like the plutonium finishing plant and the sludge in Kay Basin.

For the 325 building, by the end of Fiscal Year '16 we plan to finish the mock up, develop the design of what needs to be done in order to excavate and remove the soil that is beneath the building. My understanding is that the plume has not moved and it's not expected to move in a quickly manner, but the building right now is stable. Once we start excavation and removal of the contaminants that is when we put the workers at risk. So the mock up will serve the purpose of flaws to make sure that when we conduct these operations we will actually do this in a safe manner. So

by the end of '15, Fiscal Year '16, we should have the design and the mock up ready to implement this process.

Senator CANTWELL. At what rate is the plume traveling through the soil and how much time before it reaches a water source? What do you think the timeframe on that is?

Dr. REGALBUTO. Currently the scientists that we have from the national laboratories including PNNL have taken a look at the plume and they're continually monitoring. If we don't disturb it, it will not be at a high rate, you know, it will be in the order of years. But once we start disturbing the soil then we do have to keep an active eye on the plume because when you introduce new and foreign material that's when the plume may travel. So we will have to do assessing of the traveling of the plume as we do the cleanup simultaneously.

Senator CANTWELL. Isn't it true that we do not know how to treat some of the chemicals that are there, though?

Dr. REGALBUTO. I think that the current process is there are some treatment methods but they're not the best, so they are looking at alternatives for the treatment methods. And we will have good answers for you by the end of the calendar year.

Senator CANTWELL. Thank you. I will have some follow up on this.

Thank you, Madam Chair.

The CHAIRMAN. Senator Barrasso.

Senator BARRASSO. Thank you, Madam Chair.

Congratulations to both of you and to your families, welcome to the Committee, again.

Dr. Regalbuto, since 2009 the Department of Energy has repeatedly violated its own written policy and violated Federal law when managing the public stockpile of excess uranium. As a result the Department of Energy has failed to obtain a fair return on this uranium for American taxpayers. The Department's mismanagement of this stockpile has also contributed to volatility in the uranium market and has led to job losses in states like my state of Wyoming. Between 2013–2014 employment among U.S. uranium producers fell 32 percent. Employment among U.S. uranium producers is now at the lowest level since 2006.

Last month I, along with Senators Markey, Cornyn and Heinrich, introduced S. 1428. It is called the Excess Uranium Transparency and Accountability Act. This is clearly a bipartisan bill when you take a look at who those four co-sponsors are.

This would bring transparency and accountability to the Department of Energy's management of the public stockpile of excess uranium. Specifically the bill would require the Department to maximize the value of this uranium for the American taxpayers.

The bill would also require that the Department give the American public a say in how it will manage this uranium in the near and the distant future.

Finally, the bill would codify the Department of Energy's recent decision not to transfer more than 21 hundred metric tons of uranium in calendar year 2016 and thereafter.

If confirmed you will play a significant role in managing the public stockpile of excess uranium. I would like to know whether you support this bipartisan bill, S. 1428, the Excess Uranium Trans-

parency and Accountability Act and if you are in a position to discuss the bill today.

Dr. REGALBUTO. Thank you for your question, Senator. If confirmed, as Assistant Secretary for Environmental Management I do recognize we are the recipients of the transactions of the uranium market. I understand that the Secretary has always taken very seriously not having a negative impact on the uranium market, the domestic uranium market, and it's really a very difficult balancing act to try to manage that uranium market and no negative impact with the mission and needs of other parts of the Department.

We certainly look at what needs to be done every year, and we certainly agree with you that transparency is critical in these transactions. In the most recent determination I understand there was a period of public comment. In fact I believe there were two periods of public comment, and those comments were taken into consideration during the determination for the latest secretarial determination.

If confirmed I look forward to continued conversations with you and your staff regarding this very important issue.

Senator BARRASSO. Well, thank you. I think transparency and accountability are key, and I am going to submit some written questions for your consideration because I would really like to know some specific responses regarding your views on the bill before the Committee moves forward with your nomination.

One other point. In April I sent Secretary Moniz a letter expressing concern about the Department's failure to conduct oversight on uranium transactions between Fluor, B and W, and the Traxys Group. Since 2011, the Department of Energy has transferred roughly $900 million of publicly-owned uranium which has financially benefitted these two companies. I believe it is especially important that the Department conduct oversight of these transactions now that Daniel Poneman, former Deputy Secretary of Energy, has actually joined the Board of Directors of one of these companies, Traxys.

I am deeply troubled that Traxys has hired Mr. Poneman. Mr. Poneman led the Department of Energy when the agency violated Federal law with respect to uranium transactions that benefitted this company of which he is now on the Board. I think the Department should take steps to bring transparency to transactions involving this company, Traxys, in which he now sits on the Board.

For example, I think the Department should condition its future transfers of excess uranium on requirement that one company, Fluor, publicly disclose its contracts with Traxys. The Department's response to my April letter did not address whether the Department would take that step.

If confirmed would you be willing to help make Fluor's contracts with Traxys public?

Dr. REGALBUTO. Thank you for your question, Senator. I am familiar with the current process. From the Office of Environmental Management point of view, we barter for services. So we get credit for those services as soon as we transfer the material, and I understand that there is an additional step after that that you just described.

If confirmed, I look forward to providing additional information from the appropriate people that can get back to you on those issues.

Senator BARRASSO. Well, thank you, because I believe this is a reasonable request. I think it will help the Department of Energy restore confidence in its own management of the public stockpile of excess uranium if we could have this, sort of, transparencies.

Thank you, Madam Chairman.

The CHAIRMAN. Thank you, Senator Barrasso.

Senator Wyden.

Senator WYDEN. Thank you, Madam Chair. Dr. Regalbuto, I want to turn to Hanford as well and get a sense of what you are thinking in the year after we met in my office.

The Government Accountability Office issued a report just a few weeks ago and stated that over the past 25 years the Department of Energy has spent $19 billion trying to make the high level tank safer and developing technology to process the 56 million gallons of high level waste that are stored in these leaky, underground tanks. And they found that a gallon of the waste has been treated and the tanks are really no safer.

So my question is, given the fact you have had a year to reflect on this, what would change on your watch?

Dr. REGALBUTO. Thank you for your question, Senator.

I do share the concern of the leaking tanks at Hanford and your constituents. I think that is one of the top priorities in the Office of Environmental Management. Tank integrity is certainly something to be concerned, and I look forward to continue to work in those areas.

The best way and the only permanent way to address tank waste is to immobilize it and to properly dispose of it as we move forward. Under the current situation at WTP it is recognized that as currently designed that facility has too many technical issues and you're aware, I'm familiar with those. And I, in the past year, have been looking at coming into the, you know, technical issue resolution for the high level waste facility and the pretreatment facility.

In addition to that the Secretary certainly is moving in the path of immobilizing as soon as possible as much inventory as possible at the site, and we are looking at a path of initiating activities of the low activity waste as soon as possible. That facility does not have the technical issues that the other two have, so the path is a parallel path, immobilization, while we determine what happens at the other facility.

Senator WYDEN. Doctor, respectfully, that is very much along the lines of what I have been told for what seems like years now, so I will hold the record open. If you could state in writing, specifically, what would be different on your watch, that is what I am really looking for and that would be helpful.

Let me turn to one other question with respect to Hanford. This deals with what I consider to be a culture of hostility against the whistle blowers at Hanford. This was confirmed by the fact that the Department's own Oversight Office last June found that only 30 percent of Federal employees in the office that oversee the high level radioactive tanks felt that they could come forward and actually challenge a management decision. When I looked at the his-

tory, particularly in four recent cases, two whistle blowers were fired, Dr. Thomas Sites and Donna Busche. We looked at four contractors overall, Bechtel, URS, Washington River Protection Solutions and the Computer Science Corporation and the Government either found that these contractors were retaliating or the contractors just were not cooperating at all.

What would you do to end this culture of hostility against the whistle blowers at Hanford?

Dr. REGALBUTO. Thank you for your question, Senator. I recognize that there has been not the best culture with respect to whistle blowers. I will assure you that the Department of Energy and I personally take very serious this issue. We must have a culture at all of our sites if we are to achieve our mission of cleaning up the environment and that is that every worker, either in the Federal or contractor side, should be able to freely come and express any disagreement, issues and concerns.

The whistle blower program is really what keeps us honest and keeps us into a path of moving forward. And I certainly support that moving forward.

Senator WYDEN. Doctor, I consider you very qualified to lead the Office of Environmental Management. I appreciate our discussion before. There is no question in my view about your technical capability to carry out this office, and I am going to support voting in favor of reporting your nomination to the Committee.

I will tell you until I see some corrective action, concrete action, by the Department to make changes at Hanford in both of these areas to address that, I think, extraordinarily important report that came from the Governmental Accounting Office that I quoted before and to change this culture of hostility at Hanford with respect to the whistle blowers, I will be objecting to the Senate proceeding to your nomination.

I hope that we can see some corrections before that time, and I want you to understand this is not a judgment with respect to your abilities because I have been impressed with our discussions. But we have got to get some changes.

This has become what amounts to the longest running battle since the Trojan War. It just goes on and on at Hanford. The money just evaporates, as noted by the Governmental Accounting Office, and I mentioned those four specific cases. That is not an abstract question. Those are specific issues.

So I hope that we will get this corrected, and I want you to understand that my judgment with respect to how I am going to vote in Committee is because I consider you qualified. I want this corrected, and it is going to have to be soon.

Thank you, Madam Chair.

The CHAIRMAN. Thank you, Senator Wyden.

Senator Capito.

Senator CAPITO. Thank you, Madam Chair.

I want to thank you both for your public service and dedication to the country. Thank you so much for being here today.

I am going to, kind of, go along with questioning as the Chair moved forward only instead of oil exports I would like to talk about LNG.

Mr. Elkind, thanks to obviously the innovations in energy exploration we have been given several opportunities, new opportunities, in the global markets. Many people think of the shale gas boom as being in the Western states, but as you know, I am from West Virginia. Our state is blessed with vast resources that we really do not know what the reserves are and we are discovering how massive they are. I think this presents great opportunities for us.

In recent years recent data from the DOE has shown that we have more than enough natural gas in this country to power an industrial renaissance back here in the United States and in West Virginia and also to be able to export natural gas.

What effects do you see the shale gas boom here will have on global energy markets? If our nation can trade with energy, our energy producing materials with our allies, such as Ukraine, you mentioned Ukraine in some of your opening statements. I believe this could have a great impact on that region. What is your outlook on that?

Mr. ELKIND. Senator, thank you for that question. This has been one of the most exciting pieces of the global energy scene to watch is the development of previously unanticipated natural gas reserves in the United States. Obviously it is the fruit of long labors conducted jointly by industry with participation of the Departments through about a 15 year period.

It is a very good thing that there is greater diversity of natural gas in the global market, and as you will know the Department has been reviewing applications for exports as is called for under the Natural Gas Act. And we will see, by the beginning of next year, the first exports of LNG from the United States with the expectation should the already approved projects move ahead that we will become one of the largest LNG exporters around the globe.

It is important to note that that doesn't automatically answer whether where natural gas will flow U.S. exports. For example, some of the countries the treaty was referring to, Ukraine and others in Central and Eastern Europe that most particularly need to have more choices. There are steps that they also need to take in terms of further development of their transportation infrastructure.

Senator CAPITO. Right.

Mr. ELKIND. For natural gas. So this is an area that we are engaging on continuously with Ukraine, with other EU, with EU partners, pardon me, because we see lots of opportunity for benefit for them and for us as well.

Senator CAPITO. Are you seeing any of those nations in particular that are developing the transportation infrastructure to receive the product?

Mr. ELKIND. Yes, it is happening. In the case of Ukraine the development of so-called reverse flow capacities so the pipelines can run in a west to east or north to south, in the case of Poland. That is happening step by step.

We watch some of the further interconnection developments that need to happen in that more recent, the countries that more recently exceeded to European Union, in Central Europe and Eastern Europe. There's lots of unfinished business there, but there's also very keen awareness that that's an area where they need to step up the pace. And this is something that we're engaged continuously

on with the European Commission and with the member states in the Eastern part of the European Union as well.

Senator CAPITO. Well, I would encourage that and think it could be beneficial, obviously mutually beneficial, particularly for the area where I live.

The last question I was going to ask you was is in reference to a letter. You mentioned the Western Hemisphere in your opening statements. I joined Chairman Murkowski on a letter with others urging that our neighbor to the South is treated in the same way as our neighbor to the North, Canada, with respect to crude exports. What is the status of that and what response do you have to the letter?

Mr. ELKIND. Senator, thank you for that. The—this question, as I mentioned before, is one that is obviously very, very important. We are aware of the interest on the part of Mexico, specifically PEMEX, to engage in a swap arrangement. It is my understanding that that particular application or question has been posed properly to the Department of Commerce as they have the jurisdiction for responding to that.

Again, as we watch this dramatic change that is happening in U.S. production it, nonetheless, remains the case that we're a major importer. That doesn't mean that that's the only part of the story, but that is just a simple arithmetic fact that remains a part of the background today.

Senator CAPITO. Alright, thank you.

Mr. ELKIND. Thank you.

The CHAIRMAN. Senator Manchin.

Senator MANCHIN. Thank you, Madam Chairman, and thanks, both of you, for your appearance today and I will follow up on my colleague from West Virginia.

As you know we have a very proud state, and we are abundant in energy. We have been a big energy producer for the country, net exporter of energy.

She had asked the questions concerning natural gas that we have been blessed, and we think there are more formations that we are finding even as we speak.

With that being said, I am going to turn to the coal issue because it is a very critical issue for us and our economy and our state. Mr. Elkind, can you please explain to me, from your standpoint, sir, and your role that we are working on now, your position.

Coal is going to be a dominant or a significant factor of energy production in the world. If you all would agree to that or you do agree that the rest of the world is using more now than they have ever used in the history of the world. With that being said, also, if you could touch on the number of coal-fired plants being built around the world, our ability to export coal since we are not using as much as we used to use in this country, but other countries that have demand for it, part of our economic engine.

Next sir, your position on where we stand with China, the environmental deal that the President struck with China. For the life of me I cannot understand why you went to CO_2 emissions by 2030 but did not address any particulates and SO_X and NO_X. And SO_X and NO_X is what is killing the people in China today. It is not CO_2 even though we have to get both under control, why you all would

not have taken the step that we have already taken with phase one of the Clean Air Act? So if you could maybe give me your background or explanation on that? First is coal in the world. How you all look at that.

Mr. ELKIND. Thank you, Senator. Your question exactly takes us to one of the core elements of how we approach our engagements on energy issues with international partners, and that is squarely in the spirit of all of the above.

We are looking at the full range of energy sources. We are also looking at the demand side as well. I can come back to that at a later time. I say that because I completely agree with the point that you make which is that coal is a big part of our current fuel mix, globally and in the United States today, and we anticipate that that is going to be so moving forward. The question, though, within that is then how do we engage? With whom do we engage in order to make sure that we end up with coal being used in a way that is environmentally responsible?

Senator MANCHIN. Right.

Mr. ELKIND. And that's a huge element of our engagements. You mentioned China. It's not only with China, but there's a big piece of——

Senator MANCHIN. Well India is going to build more coal-fired plants than China in the next five years.

Mr. ELKIND. Right. Right. So one of the things that we do is we lead on the, as DOE, in the Carbon Sequestration Leadership Forum which is a small grouping of countries that intend to keep using coal and how, in a more and more and more economically beneficial way, do you reduce costs in order to——

Senator MANCHIN. Well how about with China?

Mr. ELKIND. Yeah.

Senator MANCHIN. Why did you all not go on particulates? Same as what we have done with SO_X, sulfur? We have clean taken SO_X out of the atmosphere——

Mr. ELKIND. Right.

Senator MANCHIN. In America, but we never even would have addressed it with China.

Mr. ELKIND. Senator, respectfully I would disagree that the——

Senator MANCHIN. Okay.

Mr. ELKIND. Our conversations with our Chinese counterparts are exactly responsive to the concern that they have, the concern that they properly have, about air quality that is killing people in their country.

So we are working with them on advanced coal technologies. I'll give you one particular example where your state and institutions in your state play a critical role and that is the U.S./China Clean Energy Research Center. Under that research center advanced coal technologies are one of the three areas that we are focusing on. That effort which is a virtual center, kind of, an effort involves joint research teams involving the U.S. and China, public sector and private sector.

Senator MANCHIN. Sir, we are going to run out of time, if I can just interrupt you real quick.

Mr. ELKIND. Please.

Senator MANCHIN. Do you see any other country in the world that is depending on coal moving away from coal as quickly as we are in this nation or following our lead? When there are 1,200 new coal-fired plants being planned to be built in the world, none of them in America. I do not think they are taking our lead. We believe that they are going to follow our lead or we are going to hold them hostage to our trading policies? I do not see any of that happening.

Mr. ELKIND. Senator, what we do see absolutely is an interest, a strong interest, to collaborate with the United States and with the Department of Energy, in particular, in exactly the way that West Virginia University is leading with our Chinese counterparts for how do you reduce emissions.

Senator MANCHIN. Right.

Mr. ELKIND. Reduce costs. And so I do see a very strong interest. It comes, of course, with the proviso that countries like China, the world's largest coal consumer, they see themselves continuing to use coal.

Senator MANCHIN. I am so sorry, Madam Chairman.

With all that being said we all agree that coal is going to be used in the world for some time, that we all need to use it better and cleaner with technology, but we are not investing in technology.

It is almost like we are in denial in the United States of America thinking that we can basically not address the use of it by finding new technology sources to do it or basically creating a whole another. It would be a whole other industry for the state of West Virginia, who has been decimated by the policies of this Administration, if we could try to find the cure for the environment for the whole world that is using this product. But we are not getting any help from the Department of Energy investing in that technology because there are no takers stepping up to the plate because there is no certainty in the rules and policies that we have. They will not step forward.

We'll get with you later on that, sir. I would like to take this conversation further with you.

Mr. ELKIND. Senator, I'd welcome the opportunity to do that.

Senator MANCHIN. Thank you.

Mr. ELKIND. And to talk both about the things that we're doing domestically with——

Senator MANCHIN. Absolutely.

Mr. ELKIND. The Loan Guarantee Program and the investments——

Senator MANCHIN. Yeah, thank you.

Mr. ELKIND. In demonstration plants and also what, in my particular portfolio, what we're doing——

Senator MANCHIN. We will set up a meeting with you if you can come and we will sit down. Thank you, sir.

Mr. ELKIND. Thank you, sir.

The CHAIRMAN. Senator Risch.

Senator RISCH. Thank you, Madam Chairman.

Mr. Elkind, and this is a comment as opposed to a question but sitting here I am somewhat amused at your statements about how wonderful fracking is and the explosion that it has caused in the

production of natural gas in America, and that somehow the Government was a partner and a cooperator in this.

I know you give a lot of speeches internationally. I would hope you would instead stress about the Government's role in this, what a great system the free market entrepreneurial system is with its innovation and its entrepreneurialship because this was all done by the free market. It certainly was not done by the Government. I would say it was done in spite of the United States Government as opposed to with its help. So, in any event, my comment.

Dr. Regalbuto, I want to talk to you about the integrated waste treatment unit at INL. You and I have had lots of conversations about the cleanup contract, and the cleanup contract, by and large, has worked quite well over the years. Every governor since the time it was signed has stood shoulder to shoulder to keep the contract intact and enforced, and the Department of Energy, overall, has been compliant, for which we are very appreciative. As you know, we are really struggling, I guess everybody is struggling, with the IWTU. How many hundred million do we have in it now? I do not know how many hundred million has been spent on that trying to get it to work and it is still not working.

I would like to get your thoughts on that. I know there are a lot of heroes right now saying, "oh, I told you it wouldn't work," which is easy to say after the fact. At some point in time we are probably going to have to do something different, but tell me where you are on it and what your thoughts are on it?

Dr. REGALBUTO. Thank you for your question, Senator. It is definitely a challenge that the integrated waste treatment facility in Idaho has had its share of technical setbacks. And just to give you a little of background on that is that unfortunately that facility was declared to be a CD4 prematurely as we have had some conversations in the past. And that has caused delays which certainly we were not forecasting.

What we are currently doing in IWTU is we stood up an operation support team that is actually looking specifically at how to bring the facility into operation safely. We are very lucky that the Idaho National Laboratory is providing extensive support to this facility and that the activities initiated there pretty much at the beginning of the year, and we have done significant progress since the Idaho team from the—team to join us which we're very grateful to Director Grossenbacher for, you know, being able to support us in this effort.

Where we currently are is we did a simulant run. A simulant run is necessary for us to address all the operational activities that are going to help when we place waste in there. And after the simulant run which we finished about December of last year, we have gone through a period of outage. We have done some modifications to the facilities in order to assure that the safety envelope is met, and we plan to button up the facility and initiate another set of simulant run in order to test all the modifications that were done. After that simulant run we will be in a better position to determine when we'll be initiating waste cleanup.

It is a priority personally for me and for the Department, and I do look forward to having more conversations with you. And we will keep you updated in any developments.

Senator RISCH. I appreciate that, and I also understand how difficult this is. This is not like going in with the broom and cleaning something up. It is highly technical.

John Grossenbacher and his team at the Idaho National Laboratories is as good as they get. If they cannot make it work, nobody can make it work.

So I guess I was looking for some comment from you about how long are we going to keep trying because this has been going on for lots and lots of money and lots and lots of time. At some point in time I guess we are going to probably have to shift to something else.

Are you still fully committed to it, to make it work at the present time?

Dr. REGALBUTO. Thank you for your question, Senator. As mentioned, we will do another simulant run, and then we will do an evaluation of how far did we push this facility or do we consider alternatives. So at this point in time until we conclude that next simulant run, we will be in a better position to inform you on a path forward. And if confirmed, I look forward to having those discussions with you and your delegation.

Senator RISCH. Fair enough, I appreciate that.

Of course, you and I have talked at length about the difficulties at WIPP and the problems it is going to cause in meeting a 2018 deadline. I just want to underscore how important that is to us that we do everything we can to meet that deadline or else there are going to be issues. We already have people in the state chewing on us about that. We are not there yet, but we have got to keep our eye on that. Thank you very much.

Thank you, Madam Chair.

The CHAIRMAN. Senator Heinrich.

Senator HEINRICH. Thank you, Madam Chair.

Speaking of WIPP, Dr. Regalbuto, I want to start by saying thank you for your visit to WIPP last week. The workers and the community very much appreciated your being there again, and I would like to invite you to visit Los Alamos once you are confirmed.

I know that reopening WIPP continues to be a very high priority for you, and I fully support that effort. I wanted to ask you how you describe the current status of that recovery effort, and specifically, what is your best estimate for when initial waste emplacements will resume and for the return of WIPP to normal operations?

Dr. REGALBUTO. Thank you, Senator. I really appreciated the opportunity to visit Los Alamos. I have been in the laboratory side, but I haven't been in the waste emplacement facility, so I certainly look forward to that, if confirmed.

Regarding the WIPP facility, as you're aware the Accident Investigation Board presented the last and the final of its reports. It is certainly a very comprehensive investigation. We are in the process of addressing all the recommendations.

The target for waste emplacement is the first quarter of next year, but please do understand that we will not do emplacement operations until the facility can be run safely. As we keep on addressing the Accident Investigation Board recommendations, we will have a better estimate of what that date will be.

I personally will be there next week, and we are, you know, we have again, another similar type of format as we employ at Idaho where we have an operations support team. We have about eight different areas we're looking at, and we're taking a look at exactly how we're going to prevent this incident from happening again, looking at all the recommendations and what it takes to implement it. So far we have done great progress. As you're aware we had a temporary closing of the panels which is a major milestone for us and for the community.

We're also working in the combustible loading. A significant amount of work has been done in the underground and every time we go it's a better place, and that is certainly the direction we want to be.

We are looking into now the certification and the characterization of the material that comes to the facility. As we certainly know that is one of the issues that was addressed by the Accident Investigation Board.

So a lot of progress has been made, but more work remains to be done. And similar to any other facility in the complex, when we initiate emplacement operations, we will start with bringing in non-radioactive drums. We will practice and continue to do that, and when we're convinced that is done safely then we will switch to the waste itself. So emplacement will start with what we call the dummy drum.

Senator HEINRICH. Right.

Dr. REGALBUTO. Right.

Senator HEINRICH. So if you meet that target of first quarter of next year for initial emplacement of dummy drums and start working your way back towards normal operations, do you have a sense for if things go smoothly when normal operations might resume?

Dr. REGALBUTO. Thank you for your question, Senator. We will have a better idea of when what you call full or normal operations are going back once we get a little bit farther on the permanent ventilation. As you're aware we are competing for air in the facility.

Senator HEINRICH. Right.

Dr. REGALBUTO. And we're not working at the permanent needs to full operations where we're about one-third, one-fourth. I'm sorry, one-third, 40 percent or so. We're bringing interim ventilation, a temporary ventilation. But we will need the permanent ventilation.

That project is currently looking at alternatives, and we will be getting to CD1 relatively quickly, once those alternatives are submitted and being that we do due diligence. And that once that is done we will have a better idea of when is the schedule going to be.

Senator HEINRICH. Okay. Well, backing up again to the cleanup effort at Los Alamos Lab. You are aware of my concerns about the upcoming transition in program management. As you develop an acquisition plan for the new contractors, how are you going to assure that local, small businesses continue to have an opportunity to play an active role in that cleanup effort?

Dr. REGALBUTO. Thank you for your question, Senator. As you are aware the Department champions the small business efforts and EM actually leads the Department in this effort, not just from

subcontractors, but from prime contractors. And that is one area that the Secretary assuredly emphasizes.

As we move into transition in the contracts that is certainly one of our top priorities, not only at Los Alamos, but at all different sites of the Department. And the Secretary has asked us to, you know, take a very hard look at how do we continue to have the same provisions or similar provisions than the old contract used to have.

Senator HEINRICH. Well, I look forward to seeing that. And hopefully if you could get back to us in writing about how that will look once those decisions are made, I would very much appreciate it.

Thank you, Madam Chair.

The CHAIRMAN. Senator King.

Senator KING. Thank you, Madam Chair.

Before beginning my questions I have to differ with my good friend, the Senator from Idaho. The historic record is absolutely clear that loan guarantees, research and support from the Department of Energy in the 60s and 70s was essential to the development of the hydro fracking technology.

George Mitchell, the father of that technology, has acknowledged that, and the literature, I think, is very clear. To argue that somehow the Federal Government impeded this technology, when in fact, it facilitated it, is just not accurate in terms of the historic record.

Ms. Regalbuto, a couple of questions. If you all have noticed we only have five minutes, so I would like very specific answers. I know this is not specifically your area, but is there any hope of a high level, nuclear waste facility for commercial waste from around the country? Is there anything on the horizon, just very briefly?

Dr. REGALBUTO. Thank you for your question, Senator. The high level waste disposal facility is not under my purview under the Office of Environmental Management. It's actually under the purview of the Office of——

Senator KING. I understand that. You have been in this field for 20 years. I want to know if you see anything on the horizon. Yes or no?

Dr. REGALBUTO. The Administration has a path forward to continue to look into this area.

Senator KING. Where is the government high level waste going now?

Dr. REGALBUTO. Depending on which high level waste it is the commercial high level waste is stored at the utilities and the——

Senator KING. No, I understand that. I am talking about the government waste.

Dr. REGALBUTO. That——

Senator KING. The waste you are taking out of Hanford, where does that go?

Dr. REGALBUTO. That is stored at the sites pending disposal.

Senator KING. So is all the government waste being taken to one site or do you have specific sites around the country?

Dr. REGALBUTO. No, there are specific sites around the country and they're in different forms. Some of our waste is vitrified. Some of our waste, unfortunately, has not been treated, such as Hanford.

Senator KING. Well, I know it is not within your purview, but I think it is one of the great failures of the Federal Government for 60 years that we have not found a way to deal with this. We have high level nuclear waste in Wisconsin Bay and it should not be there, because the Government has failed to meet its commitments with regard to a disposal site.

Mr. Elkind, another very straightforward question. Would it be in the public interest if exports of natural gas substantially raised domestic prices?

Mr. ELKIND. Thank you, Senator, for that question. The price impacts are exactly part of the examination of the public interests that is undertaken by our colleagues in the Office of Fossil Energy. It is one of the factors that are laid out, specifically, in a public document that has been notified through the Federal Register.

So, other things being equal impacts in the form of higher prices would not be desirable. But I cannot give you a crisp answer because, in the hypothetical, that does not allow a consideration of the other potential impacts in a given case. I'm sorry.

Senator KING. Approximately 600 million people in Africa have no electricity. Electricity access in places like Africa or remote villages in the Arctic or wherever they are is a very serious problem. Do you see distributed energy, that is energy produced on the site, as a possible answer to this problem because it skips over the infrastructure requirements of massive transmission lines, similar to what has happened with telephone service?

Mr. ELKIND. Thank you, Senator. Yes, absolutely, distributed generation has a very important role to play in the total mix.

In the case of our engagements with Africa, Secretary Moniz, you may be aware, about this time last year chaired in Addis Ababa, a U.S./Africa Energy Ministers Meeting that was co-hosted, that was hosted, excuse me, by his Ethiopian counterpart that involved about 25 energy ministers from across, mostly Sub-Saharan Africa.

We were focused in that conversation on distributed generation as a part of the mix. We are making available to the Power Africa Initiative, a Presidential initiative, led out of the U.S. Agency for International Development, capabilities that are being, whose time is being paid for, if you will, by our colleagues from AID. But some of the technical capacities that exist in the DOE labs, in order to push this ball forward, with those countries across the African continent that are wanting to focus on DG applications.

Senator KING. Thank you. I think it is very important.

I am engaged on the Intelligence and Armed Services Committee and the fight against radical jihadists. Poverty is a feeder for that problem. To the extent we can support and just by technology transfer, not necessarily direct aid, additional electrification which raises standards of living in wherever it occurs, that is also a national security concern.

I am out of time, but I commend you for that work. I hope that that will be a significant focus of your work going forward in International Energy Affairs. Thank you both for your testimony.

Mr. ELKIND. Thank you, Senator.

The CHAIRMAN. Thank you.

I do not have any further questions, but I know that Senator Cantwell has one.

I did want to comment very briefly on a statement that you made, Mr. Elkind, about oil exports and the fact that we continue to import quantities of oil. It is an argument that I think is disingenuous at best. I have suggested so to the Secretary that we need to remember that we are the only advanced country member of the OECD that bans oil exports.

Countries like Australia, Canada, Britain, they import. They export oil. You, in fact, noted that, the report, the White Paper that we released last week which goes into great detail about the number of countries that export oil who do not even produce oil or who produce very limited quantities of oil.

So again, it is something I recognize that the statement is, in fact, very true that we are continuing to import. We also know that much of that has to do with how our refineries are situated, and it is something that is not just a math situation where until the day that we stop importing oil, that is when we can stop—start talking about our ability to export. We are the only country, again, the only country, that bans an export on oil as an oil producer. It is a ban of one, as the report has noted. I just wanted to put that on the record.

With that, I will turn to Senator Cantwell for her final questions. We have got a vote coming up in just a couple minutes, so this was pretty good timing this morning.

Senator CANTWELL. It is good. Thank you, Madam Chair.

Mr. Elkind, I wanted to touch base with you. Obviously the members of the Northwest Delegation care greatly about the Columbia River Treaty and making sure that gets executed. Can you tell me what you think the Department of Energy can do, specifically, to make sure that negotiations and the stakeholders' representation are done so that we secure a position from the Administration and move forward on the negotiations?

Mr. ELKIND. Yes, thank you, Senator, for the question. I do very much understand the importance of this to your constituents and to others in the Northwest. And as you, of course, will know Bonneville Power Administration and the U.S. Army Corps of Engineers serve as the so called U.S. entity for purposes of the treaty. And they've been working over the last couple of years to pull together a regional recommendation for how the treaty could look going forward.

My team has been engaged in that conversation with regional stakeholders along with BPA and the Army Corps. We've done so because we understand the importance of moving this issue forward. We will continue to stay engaged in that fashion, and in view of the very clear sense of urgency we will do everything that we can to help facilitate forward motion.

We understand that there are internal deliberations that are gaining momentum with our interagency partners. I realize that is not the answer that you are seeking, but I can tell you that if I am confirmed this is an issue that will have my clear focus because I understand the importance of its being moved off of dead center. Thank you.

Senator CANTWELL. Thank you. I think your leadership position in the Department of Energy is instrumental in ensuring that all the interests across various Government agencies are formulated in

a final position, which is critical in the timing of the negotiations. So we will look forward to your leadership on that.

Dr. Regalbuto, I wanted to go back to the 324 site for a second, and I have a couple of questions.

On this issue of the cesium and strontium, the contaminants that we do not know how to deal with, when should we get a timeline on how to deal with those contaminants because we have had an open-ended time frame here where we try to figure out how to treat them. At what point should we look for other plans if we do not know how to treat them?

Dr. REGALBUTO. Thank you for your question, Senator. I personally will have to look a little bit more into the specifics of which is exactly the contaminants that they're the main concern is. If confirmed I look forward to coming back and briefing you on this area. At this point I don't have the details of which are the specific contaminants that are in question, but I look forward to catching up and coming back to you.

Senator CANTWELL. In your earlier remarks, you stated it was clear we did not have some treatment capabilities or they were not seeming to work. So I am looking for certainty on this situation that has existed for some while. We have had this issue where we have, for some time, said we do not know how to treat it. What I really want to understand is what is the plan for identifying treatment methods? If we come to a point after a year or two that we still do not have any treatment responses for those chemicals what are our alternative plans?

I think we have gone for a long time with a certain level of uncertainty, and I think from your testimony and the answer to the previous question you believe that we will be able to contain and remediate this plume. But I think people want to know, from a scientific perspective, if we cannot over the next few years come up with a treatment process for these contaminants, what are the alternatives? If you could, for the record give us answers on that, that would be great.

Dr. REGALBUTO. Yes, thank you, Senator. It really is an issue of efficiency of the process versus cost. You know, we do have the ability of remove chemicals, pretty much, from every surface. The question is what is the cost and what is the efficiency of that process? And what one seeks to look at in an industrial process such as this one is we need to balance the cost with the efficiency of the process.

So certain activities one can do, for example, in the pharmaceutical industry where it's only a small batch, one kilogram or two kilograms per year is certainly not an efficient process to remove contaminants from soil. So that is really where we are in the process. But I'd be happy to, you know, get back to you on this issue.

Senator CANTWELL. I appreciate that analysis and understand the cost considerations. I think to some of my colleagues' comments, they are always surprised how much it costs to clean up Hanford.

Dr. REGALBUTO. Yes.

Senator CANTWELL. It is the largest cleanup site in the entire world, and its complexity dwarfs anything we have ever done at

any other Federal site. We need to continue to look to the science to solve these problems. There are no shortcuts.

But on this point, I think without a plan to cleanup that material I think we keep, I don't know if we are waiting, as you say, so the efficiency issue is counterbalanced by the issue that I am very concerned about groundwater contamination and the plume continuing to reach closer to a water source or local population.

What I would be more comfortable with is some sort of analysis by you and DOE. At what point do you just say, "we do not know how to cost effectively treat these contaminants." We are not going to have the answer in the next three years or five years and the alternative cleanup process would look like this. If you could give us something for the record on that, that would be great.

If I could just ask you about the waste treatment plant and its use of energy: are you still considering liquid natural gas as a fuel source for the operation of the waste treatment plant?

Dr. REGALBUTO. Yes.

Senator CANTWELL. Okay, is that going through an EIS, and if so, when would that be done?

Dr. REGALBUTO. It was going through an EIS but there was a slow down because of the need to align the activities that we want to do with the central plateau in support of WTP. So yes, we will continue to look at replacing the diesel with natural gas. We recognize the benefits to the environment and the sustainability to the site.

But the EIS has slowed down until we can better align the two processes. Once that is aligned we will continue the EIS and look forward to working with the Committee.

Senator CANTWELL. Was that this year, 2015?

Dr. REGALBUTO. I need to check when this projects are aligned but it is our, you know, intention to continue to do this. And we will definitely switch to natural gas.

Senator CANTWELL. Okay, thank you, and we will look forward to that. Thank you very much.

The CHAIRMAN. Senator King, did you have any final questions?

Senator KING. No, Madam Chair.

The CHAIRMAN. Thank you.

I want to thank both of you, not only for your time here this morning before the Committee, but for your willingness to serve in the acting capacity during this time. I know that is not an easy position to be in, but we appreciate what you have offered us in terms of the questions and we will look forward to your responses if members have further follow up. I know that there were some specific requests made to each of you, and we would hope that those would be given due and prompt consideration so that we can, as a Committee, do our jobs here. We appreciate you for the jobs that you do.

And with that the Committee stands adjourned.

[Whereupon, at 11.30 a.m., the hearing was adjourned.]

APPENDIX MATERIAL SUBMITTED

U.S. Senate Committee on Energy and Natural Resources
June 16, 2015 Nominations Hearing
Questions for the Record Submitted to Dr. Monica Regalbuto

Questions from Chairman Lisa Murkowski

Question 1: Priorities – If you should be confirmed, what are your top priorities at the Office of Environmental Management?

Answer: Safety is the overriding priority for the Office of Environmental Management (EM). Everything we do, we must do safely. While EM has an excellent safety record overall, one of my key initiatives will be to improve on the science of safety and emphasize a safety culture. Resuming safe operations at the Waste Isolation Pilot Plant (WIPP) is also a high priority for me and for the Department overall. WIPP is the cornerstone of EM's transuranic waste disposal operations, and we must continue to focus on resuming operations at WIPP as soon as it is safe to do so. The treatment of tank waste is also a high priority. Additionally, we need to ensure we are maintaining progress and addressing the highest risks across all of our sites through effective project and contract management and effective and focused technology development and deployment activities.

Question 2: Experience – Since you were last before the Committee, you have started in a new position within the Office of Environmental Management. Can you describe what activities you have worked on in this new position?

Answer: As the Associate Principal Deputy Assistant Secretary for the Office of Environmental Management (EM), I provide senior leadership and oversight of EM's mission activities in the areas of site remediation, tank waste and nuclear material, and waste management. I also lead EM's technology development and deployment efforts and have been most focused on developing technologies to address cesium, strontium, technetium, and mercury. I have provided expert technical leadership in several areas, and I have also led efforts to improve EM's approach to technology development and deployment by expanding EM's partners in this area, to include the Defense Advanced Research Projects Agency (DARPA), the U.S. Naval Research Laboratory and a broader network of partners in industry and academia.

Question 3: Management – The Office of Environmental Management is a $6 billion program with 1500 federal employees, multiple contractors, and a number of sites across the United States. What management roles have you held in the past that have prepared you for this position?

Answer: I have worked on nuclear energy issues for much of my career, starting in 1988 when I joined Argonne National Laboratory after completing my Ph.D. at the University of Notre Dame. I began my work supporting the development of technologies for the treatment of high-level waste at the Department of Energy plutonium production sites. After developing strong technical skills, I joined BP-

U.S. Senate Committee on Energy and Natural Resources
June 16, 2015 Nominations Hearing
Questions for the Record Submitted to Dr. Monica Regalbuto

AMOCO in 1996, where I enhanced my skills at managing complex projects, large budgets and a multi-disciplinary staff in an industrial setting. I returned to Argonne in 2001, and became the Head of the Process Chemistry and Engineering Department where I worked on new technologies for the treatment of used nuclear fuel and led efforts to identify technical solutions to difficult waste management issues.

In addition, I participated in the Massachusetts Institute of Technology three-year Fuel Cycle Study Team, published in 2010, which allowed to me to gain experience working with high level officials and nongovernment organizations, and also brought to my attention the need for the safe, permanent disposal of all types of radioactive wastes. In 2008, I had the unique opportunity to join DOE's Office of Environmental Management, where I served as a senior program manager supporting its strategic mission in the waste processing area.

In my role as the Deputy Assistant Secretary for Fuel Cycle Technologies within the Office of Nuclear Energy, I was responsible for formulating and articulating strategic options to expedite the resolution of waste management issues.

I have also experienced the intricacies of nuclear waste management from the perspective of a waste generator and from a waste disposal specialist during my time at DOE. One of our nation's biggest challenges remains to assure the public that the government is able to fulfill its responsibility regarding the timely handling and cleanup of the nuclear waste originated from both its defense and civilian programs.

I currently serve as the Associate Principal Deputy Assistant Secretary for the Office of Environmental Management (EM), providing senior leadership and oversight of EM's mission activities in the areas of site remediation, tank waste and nuclear material, and waste management, and leading EM's technology development and deployment efforts.

I believe my background, experience and commitment have prepared me to lead the Office of Environmental Management during this particularly critical time and I welcome the opportunity to continue my service to the nation as Assistant Secretary for EM. If confirmed, I pledge to work closely with this committee and others in the Congress to ensure that we continue the safe cleanup of the environmental legacy.

Question 4: Budget – What if any role did you play in developing the Office of Environmental Management's fiscal year 2016 budget request?

Answer: As the Associate Principal Deputy Assistant Secretary for the Office of Environmental Management, my team and I provided technical expertise to

determine what work could be accomplished within the budget request levels for each site.

Question 5: WIPP Status – During his testimony in front of the Committee in January, Secretary Moniz indicated that the Waste Isolation Pilot Project in New Mexico would be open again in the first quarter of 2016. Will WIPP open in the first quarter of 2016?

Answer: The Department's target for initial resumption of waste emplacement at the Waste Isolation Pilot Plant (WIPP) is the first quarter of calendar year 2016 if it can be done so safely. If at any time during the course of developing and implementing the safety management program improvements we need to make schedule adjustments, we will do so.

Question 6: WIPP Safety – The Department has acknowledged some failures that led to the fire at WIPP. What safeguards and procedures is DOE putting in place to ensure an accident like this does not happen in the future?

Answer: The Department of Energy is developing a detailed and thorough corrective action plan to address the findings and recommendations in the Accident Investigation Board (AIB) report on the February 5, 2014 truck fire incident at WIPP. The Department is strengthening the WIPP safety management programs, including nuclear safety, fire protection, emergency management, oversight and radiological and maintenance programs. DOE is also sharing lessons learned across the EM complex and strengthening the overall safety culture.

U.S. Senate Committee on Energy and Natural Resources
June 16, 2015 Nominations Hearing
Questions for the Record Submitted to Dr. Monica Regalbuto

Questions from Ranking Member Maria Cantwell

Question 1: Dr. Regalbuto, the 324 Building is one of the most significant remaining cleanup projects at Hanford due to the high radioactivity of the location, and its proximity to the Columbia River. I have been reassured that the radioactive materials that have seeped into the soil beneath the building have not reached groundwater and will not reach ground water if it is cleaned up in time. But the key factor is whether it is cleaned up in time as the cesium and strontium plume pose a grave risk to the surrounding population and environment.

I believe it is of the upmost importance that the Department of Energy set firm dates and makes it clear what the cleanup remediation strategy and if that strategy is plausible with current funding. The 324 Building contamination and resulting plume I understand pose an extremely hazardous cleanup environment and pose difficult technical obstacles. However, I believe the complexity and hazards of this site underline the need for expediency to ensure that the plume does not reach the groundwater supply or Colombia River and in turn the surrounding population.

Thus I would like to know what is currently being done to halt and treat the cesium and strontium plume and what operations are currently ongoing to remediate the 324 building? What is the timeline for completion of this project and what is needed to expedite the process? And lastly, as this factor plays heavily on the needed timeline to clean the site, at what rate is the plume traveling through the soil and how much time before it reaches a water source? .

Answer: The waste site under Building 324 is in a stable configuration. Contaminants are approximately four feet below the surface of the building and approximately 20 feet above the water table. Multiple studies show there has been no or virtually no migration of cesium or strontium, the primary contaminants, since 1992.

The concrete pad for the building is protecting the waste site beneath from rainwater intrusion. Water intrusion is what could drive contaminants towards the groundwater. The soils beneath the B Cell represent the highest risk to workers and possibly co-located persons, but only if they are excavated and contaminants are released into the environment. The concrete pad also provides shielding from exposure to the highly radioactive soils.

The current plan is to extract the soil through the B-Cell floor, mix with grout and transfer the mixture to the C and D hot cells. The outer shell of Building 324 will then be demolished, and the hot cells will be cut into monoliths and transported to central Hanford for disposal. This process involves technical uncertainties, which DOE and its contractor are addressing by completing full scale mockup testing as part of design verification.

U.S. Senate Committee on Energy and Natural Resources
June 16, 2015 Nominations Hearing
Questions for the Record Submitted to Dr. Monica Regalbuto

We will have a definitive project completion timeline after the completion of the full scale mockup testing. We need to ensure we understand the safest and most efficient way to address the entirety of the remaining cleanup at the 324 building before we commence any activities that will disturb the soils or the building. I remain committed to remediating this waste site and facility using a methodical, risk-informed approach.

Question 2: Congress has appropriated money for the 324 Building remediation and demolition project for fiscal year 2015, and is working to provide funding again for fiscal year 2016. I understand that there is a high likelihood that the Washington Closure Hanford contract scope may be moved to another contractor after September 2016. One way or another, I am simply concerned that the work gets done. When will you be providing the scope of work for the 324 Building project? In addition, why is this waste site no longer a priority?

Answer: I appreciate the continued support of Congress for our cleanup work at Hanford. We share a similar goal of balancing our available resources while sustaining focus on high-risk cleanup projects such as the Plutonium Finishing Plant, the sludge at K Area and Building 324. I remain fully committed to remediating this waste site and to ensuring that DOE continues to follow a methodical, risk-informed approach to maximize the efficiency, effectiveness and safety of the cleanup.

Question 3: It has come to my attention that the Waste Treatment Plant is planning to use diesel generators to support the four main Treatment Plant facilities. The generator can supply 2,250 kilowatts of electricity but will require large volumes of diesel to run, which will impact the surrounding community in terms of carbon emissions and trucks transporting diesel through the community of Richland.

Is the Department of Energy going to finish the necessary Environmental Impact Study that was recently discontinued and install a natural gas pipeline to the Waste Treatment and Immobilization Plant to reduce cost, impact on surrounding communities, and environmental impact?

Answer: The Department will complete the EIS process and planning in order to make a timely decision about the proposed natural gas pipeline at Hanford. Given current cleanup and other priorities, schedules, and available resources, the Department is aligning completion of the EIS with planned future operations of facilities on Hanford's Central Plateau. We recognize and appreciate the ongoing support of the Tri Cities community, Congress, and others, and we will continue to communicate and work with key stakeholders regarding the proposal to bring natural gas onto the Hanford Site.

U.S. Senate Committee on Energy and Natural Resources
June 16, 2015 Nominations Hearing
Questions for the Record Submitted to Dr. Monica Regalbuto

Question 4: As you know, serious questions have been raised about worker safety in the Hanford tank farms, given potential vapor exposure incidents. Workers are concerned that the lack of definitive detection techniques means that they could be exposed to chemical vapors without record. Additionally, the current protective equipment is incredibly cumbersome and the weight of the tanks has increased the amount of worker injuries on the tank farms.

To mitigate these concerns, I understand the Department of Energy is looking to equip workers with individual devices that will allow workers to monitor their exposure levels in real time, and has been developing lightweight protective equipment.

Will the Department of Energy be able to provide lightweight protective equipment and individual devices for real-time exposure measurements within the next year and if not when will workers have access to this equipment? In addition, has the Department of Energy developed a better understanding of the intense short duration exposures that were hypothesized in the 2014 Savannah River National Lab Hanford Tank Vapor Assessment Report?

Answer: While personal protective equipment (PPE) often adds weight and/or constraints to movement for workers, it is my understanding that the tank farm contractor, overseen by DOE, is carefully managing worker safety issues that may arise due to the use of PPE as well as the heat as we approach summer. The Department is implementing the first of two phases that will address the recommendations of the Tank Vapor Assessment Report. The first phase activities will, among other things, enhance the Department's understanding of the hypothesized intense short duration exposures, analyze improved detection and monitoring devices, and investigate alternative protective equipment that is lighter and less cumbersome. We anticipate the first phase will be completed in approximately 18 months. Second phase activities will be determined by the results at the completion of the first phase. Where investigations determine that lighter, less cumbersome equipment is effective and available, we will accelerate its deployment as much as possible.

Question 5: Your duties could involve the review and approval of workforce restructuring plans at sites under the Office of Environmental Management program. Could you please describe your general approach in reviewing workforce restructuring?

Answer: My general approach and philosophy is to balance being a good steward of taxpayer resources with attracting and maintaining qualified staff needed to carry out our complex and hazardous work. When contract funding is such that the contractor determines it needs to restructure its workforce, I expect the contractors to do so in accordance with the terms of their contracts. If confirmed, I will ensure that DOE provides balanced oversight of the contractors' compliance and

encourages innovative approaches to get the best value for taxpayer dollars, while minimizing disruption to the contractor workforce.

Question 6: Can you please describe to me what your research and development priorities will be and where you will be drawing funding from for these activities? How do you view the role of DOE's national laboratories in the EM mission?

Answer: I am pursuing opportunities for innovative technologies and solutions that: improve worker and facility safety; enable us to execute our work more efficiently; reduce the overall EM lifecycle liability (cost and schedule); and position us to more effectively respond to unplanned events and emergencies. EM will leverage the capabilities, resources, and expertise of the Department's national laboratories to help resolve our current technical challenges and help address our technical gaps and uncertainties. We will also cooperate and collaborate with other federal agencies to exploit existing technologies and leverage the investments already made by the US taxpayers.

The national laboratories are already leading several efforts that we believe will yield positive results for the cleanup mission, including the following: Sandia National Laboratory is leading research related to cesium and strontium contamination; Pacific Northwest National Laboratory is leading efforts to develop smarter solutions to manage technetium and the Oak Ridge National Laboratory is leading research on remediation of mercury contamination.

We have identified funding opportunities in the FY 2016 budget request for technology development, and will seek to gradually and incrementally increase funding. Investments in technology will be commensurate with the technical gaps, uncertainties and risks in the EM mission.

U.S. Senate Committee on Energy and Natural Resources
June 16, 2015 Nominations Hearing
Questions for the Record Submitted to Dr. Monica Regalbuto

Question from Senator John Barrasso

Question: If confirmed, would you support enactment of S. 1428, the Excess Uranium Transparency and Accountability Act, as introduced?

If not, please specify the provision(s) you oppose, explain, in detail, your reason for opposing the provision(s), and provide alternative language that you would support.

Answer: The Department understands the importance of the domestic uranium industries, and the Secretary visited with uranium miners on this topic during his last trip to Wyoming. For the most recent Secretarial Determination, issued in May, we employed a robust process to solicit and incorporate public input into our decision, including two public comment periods. We appreciated the substantive information we received from commenters across the range of uranium industries, as well as from other stakeholders.

It is my understanding that Departmental officials have contacted your staff to arrange discussions on this legislation.

U.S. Senate Committee on Energy and Natural Resources
June 16, 2015 Nominations Hearing
Questions for the Record Submitted to Dr. Monica Regalbuto

Questions from Senator James E. Risch

Question 1: The Idaho Treatment Group is getting closer to completing the transuranic waste disposal mission at the Advanced Mixed Waste Treatment Plant; with 2018 being the completion date in the agreement. The low hanging fruit is gone and we are on to the most challenging waste. We are at a critical juncture here and the last thing any of us want to do is lose valuable time in cleaning up this Cold War legacy waste as agreed upon.

a) With the temporary shutdown of WIPP, the 2018 milestone will be challenging to meet. What is DOE's plan to move the transuranic waste out of Idaho? Are there alternatives to WIPP that would allow DOE to reach the milestone set out in the agreement?

Answer: We agree that the 2018 milestone will be challenging to meet due to the temporary suspension of waste shipments to WIPP that began in February 2014. Despite the suspension, DOE and its contractors continue to make progress to meet the milestone. We continue to retrieve, characterize, package, and certify transuranic waste at the Idaho National Laboratory so that we will be ready to resume shipments when WIPP resumes disposal operations. We currently have approximately 650 shipments of transuranic waste certified and ready to transport.

In addition, DOE and its contractors are continuing to ship mixed low-level waste from Idaho for disposal at other sites, such that the amount of waste in Idaho continues to decrease. We have also incentivized the scope of work in the proposed Idaho Cleanup Project Core Contract to remove stored legacy waste from Idaho. We have made tremendous progress toward the 2018 milestone having shipped approximately 51,000 cubic meters of Idaho Settlement Agreement waste out of Idaho for safe disposal and we remain focused on completing this mission.

If confirmed, I will ensure EM continues to evaluate opportunities to remove stored legacy waste from Idaho as quickly as possible.

b) Can you comment on your plans to bring in a new contractor and how you plan to mitigate against any disruptions that normally come with even the best contractors' transitions?

Answer: Completion of retrieval, processing, and shipment of stored legacy transuranic waste under the Advanced Mixed Waste Treatment Project is included in the scope of the proposed Idaho Cleanup Project (ICP) Core Contract. DOE issued a Final Request for Proposal for this contract on March 13, 2015. Industry proposals were received on May 12, 2015, and are currently

being evaluated. To mitigate any disruptions during contract transition, the ICP Core Contract and the existing contracts, EM will require the contractors to perform detailed planning to ensure the work is transitioned in an orderly and safe manner during a 90-day transition phase.

Question 2: Can you update us on the Department's plan with the Advanced Mixed Waste Treatment Plant (AMWTP) after the Idaho mission?

Answer: We are making steady progress to evaluate potential future missions of the AMWTP. Initial efforts have focused on collecting information on potential waste inventories. The DOE team has completed visits to AMWTP and several sites with radioactive waste that could potentially be processed at AMWTP. Ongoing activities include evaluating transportation approaches, which is a major consideration for our feasibility analysis.

U.S. Senate Committee on Energy and Natural Resources
June 16, 2015 Nominations Hearing
Questions for the Record Submitted to Dr. Monica Regalbuto

Questions from Senator Rob Portman

Question 1: DOE is conducting decontamination and decommissioning (D&D) cleanup of the Portsmouth Gaseous Diffusion Plant 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: The cleanup of the Portsmouth Gaseous Diffusion Plant (GDP) is quite complex. The local stakeholders and the regulators have worked exceptionally well with DOE over the past several years to move forward with the pending cleanup decisions regarding the waste disposition and the GDP facilities D&D. Funding is the site's biggest challenge and I am committed to working within the Department and with Congress to provide stable funding for the cleanup at Piketon.

Question 2: If confirmed, will you personally attend to the D&D efforts in Piketon and work to finalize a long-term plan for the site?

Answer: Yes.

Question 3: If confirmed, will you work with the Ohio delegation to reaffirm the Administration's commitment to a safe cleanup schedule for the Piketon site that completes the work as quickly as possible?

Answer: If confirmed, I look forward to working with you and the other Members of the Ohio delegation to ensure the safe cleanup of our site in Piketon as quickly as possible within expected budget constraints.

Question 4: If confirmed, will you prioritize the effort to finalize the building demolition and the waste disposal plans for Piketon? These were original scheduled by DOE to be finalized in 2012.

Answer: Removal of process equipment from the 326 Building at the Portsmouth GDP, which is necessary to prepare the building for demolition, is ongoing. Demolition and the activities supporting it, including preparing for the low-level waste to be generated from the demolition, are our highest priority at the site, and will be a high priority for me if I am confirmed.

Question 5: 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: I understand that the Department periodically issues Secretarial Determinations addressing this question, most recently in May 2015, and that these Secretarial Determinations comply with the requirements of the USEC Privatization Act.

U.S. Senate Committee on Energy and Natural Resources
June 16, 2015 Nominations Hearing
Questions for the Record Submitted to Dr. Monica Regalbuto

Question 6: 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: Yes, I would support efforts to provide funding for cleanup work at Piketon. Funding is the site's biggest challenge and I am committed to working within the Department and with Congress to provide stable funding for the cleanup at Piketon.

Question 7: If confirmed, will you commit to help improve communication between DOE and the Ohio delegation?

Answer: If confirmed, I can assure you that I will make myself available at your convenience to discuss any matter involving the EM Program and will provide updates to the Ohio delegation on the cleanup at Piketon as appropriate.

Question 8: To date, how much has been spent on cleanup efforts in Piketon? If the work is completed in 2044, what does DOE estimate will be the total cost of the project? What does DOE estimate will be the total cost of the project if completed in 2052?

Answer: Since the environmental cleanup began, initially focused on soils and groundwater contamination, DOE has spent approximately $3.5 billion, not including cleanup services paid for by uranium transfers. This includes work done under 'Cold Standby' and 'Cold Shutdown' at Portsmouth beginning around 2001.

The current remaining estimated cost to completion, including FY2015, is between $14.4 billion and $15.5 billion in current dollars, not including costs incurred from 1997-2014. It is my understanding that the remaining costs to complete cleanup do not correspond with the estimated project schedule, which is noted in the President's budget request as 2044 to 2052 with a confidence level of 50 percent and 80 percent, respectively.

U.S. Senate Committee on Energy and Natural Resources
June 16, 2015 Nominations Hearing
Questions for the Record Submitted to Dr. Monica Regalbuto

Questions from Senator Martin Heinrich

Question 1: DOE's Office of Environmental Management has stood up its office in Los Alamos and is seeking a tailored approach to the acquisition planning for new management contract(s) for environmental clean-up work. Many local businesses have expressed concern that EM's forthcoming Request for Proposals (RFPs) may exclude local businesses with site-specific expertise in favor of large contractors. If contracted work moves away from the community, the subsequent loss of jobs will deeply undermine community trust. At an active DOE cleanup site, community consent is critical to DOE's ability to meet its mission. Will you commit that any RFPs for EM work at Los Alamos require potential contractors to propose strategies for local, disadvantaged and small business subcontracting, regional economic development and community engagement?

Answer: DOE is committed to the safe and efficient cleanup of the Los Alamos National Laboratory site. We are engaging the local community, industry and stakeholders as we develop the request for proposals. I am not an expert in federal contracting requirements, but I am mindful of this concern. If confirmed, I will evaluate options for maximizing opportunities for local, disadvantaged and small business companies while ensuring our procurement provides the best value to the taxpayer and is in compliance with contracting regulations. I will also continue DOE's engagement with regional economic development and community stakeholders.

Question 2: DOE EM and the State of New Mexico Environmental Department (NMED) will soon work together to renegotiate a consent order to prioritize environmental clean-up work at Los Alamos. This consent order may include a focus on campaigns of work to complete individual clean-up projects. In this negotiation, will you support EM working together with community leaders, tribes and local educational institutions to create a schedule of environmental work to sustain over time a local workforce who may be retrained for new projects as old campaigns are completed?

Answer: While I am not personally involved in the negotiations, a close working relationship with the State of New Mexico on these matters will be essential. If confirmed, I will listen to the input and concerns from Congress, community leaders, tribes, local educational institutions, and other interested parties.

Question 3: DOE EM is now utilizing the Supply Chain Management Center (SCMC) for enterprise-wide agreements to realize cost-savings through contracting efficiency and volume. However, SCMC pre-selects businesses to compete for these opportunities through a closed process, eliminating the possibility of bids from many disadvantaged, local and small businesses. This is already impacting the ability of individual sites to meet contracting goals in these categories. SCMC enterprise-wide agreements also do not always include value-added requirements specific to sites. Product-only enterprise

agreements are selected over local bidders who traditionally provide complete-solutions. This is not an apples-to-apples comparison, and as a result, the cost-savings claimed by SCMC may not reflect hidden costs of enterprise agreements. How will EM work to minimize the impact of SCMC practices on local small businesses, promote a transparent and open bidding process, and establish a technical assistance and mentoring program to enhance the competitiveness of local businesses?

Answer: I am committed to being a responsible steward of tax dollars while also providing opportunities and support for small businesses, which are the lifeblood of the American economy in many ways. My understanding is that the Supply Chain Management Center provides several tools for our major site contractors to enhance efficiency in the expenditure of federal funds. Source lists for enterprise wide agreements are developed in consultation with the procurement officials from our contractors at the impacted sites. Another tool, called eSourcing, allows businesses to efficiently compete with one another and has proven very effective in reducing costs to the taxpayers. In both instances, small business participation is very strong. If confirmed, I will work with the EM contracting team to evaluate opportunities to establish means to enhance the competitiveness of local businesses at Los Alamos and all of the EM cleanup sites.

Question 4: The City of Carlsbad believes that DOE will ultimately conclude that a new exhaust shaft is required to get WIPP back into full operation. In this context, DOE's capital assets acquisition process (413.3B) is perceived by the city as causing unnecessary delays and may result in WIPP not getting to full capacity until 2019. In the interim, the city is very concerned there will be a reduction in employment at WIPP because of the slow rate of progress. WIPP has mined drifts, sunk shafts and installed filtration systems many times; these are all conventional mining activities. What are the considerations and constraints that prevent a full recovery at WIPP from being completed before the end of calendar year 2017? Does DOE anticipate any need to reduce the size of the current workforce at WIPP before normal operations resume?

Answer: DOE Order 413.3 requires deliberative planning and decisions. While the process is regimented, it includes options for tailoring the requirements to suit the specific project. This deliberate process ensures we are planning our capital projects so we have reasonable confidence in the cost and schedule requirements to safely and efficiently complete the projects. Documentation for Critical Decision-1, *Approve Alternative Selection and Cost Range*, is currently in development. As the Department considers design alternatives later this year, we will have better information on the schedule for return to normal operations.

Returning WIPP to full operations includes activities and considerations such as: re-establishing the safety envelope; resumption of initial operations; selection of the design alternative for the underground ventilation system and the exhaust shaft; completing design and construction of these projects; re-constituting the WIPP

U.S. Senate Committee on Energy and Natural Resources
June 16, 2015 Nominations Hearing
Questions for the Record Submitted to Dr. Monica Regalbuto

Documented Safety Analysis under the new DOE Standard; mining requirements; mine stability (bolting) activities; decontamination of the underground; upgrade and implementation of the improved Central Characterization Project; conduct of operational readiness reviews for full operations; and adequate funding for the line items as the acquisition process progresses. The Department will continue to assess the number of personnel and appropriate skills mix to resume full operations in the most efficient manner. There is currently no plan for a reduction in the workforce.

Question 5: The State of New Mexico has identified $100 million in ongoing and future needs to maintain roads on WIPP-designated routes. Are you giving consideration to requesting legislation to provide a multi-year extension of funding for the economic assistance program authorized in section 15 of the WIPP Land Withdrawal Act?

Answer: In order to implement the Principles of Agreement DOE reached with the New Mexico Environment Department, an extension of Section 15 of the WIPP Land Withdrawal Act would not be needed. As outlined in that agreement, DOE agreed to good-faith, informal discussions with NMED and the New Mexico Department of Transportation concerning the State's ongoing and future needs to maintain roads on WIPP-designated routes and how best to address those needs.

U.S. Senate Committee on Energy and Natural Resources
June 16, 2015 Nominations Hearing
Questions for the Record Submitted to Mr. Jonathan Elkind

Questions from Chairman Lisa Murkowski

Question 1: Have you taken any meetings with foreign officials or representatives of foreign companies in which they have asked the United States to liberalize its restrictions on the export of U.S. crude oil and/or condensate?

Answer: Many nations are interested in our laws regarding crude oil and condensate exports, so it comes up in many of the meetings we routinely conduct with foreign governments.

Question 2: On October 30, 2014, the EIA published a report entitled "What Drives U.S. Gasoline Prices?" It concluded that U.S. domestic gasoline prices are linked to the international crude oil benchmark, Brent, not the domestic U.S. benchmark, West Texas Intermediate. On February 12, 2015, Secretary Ernest Moniz testified to the Committee that the EIA analysis concluded "probably none to possibly minor decreases in domestic prices" of gasoline would arise as a result of greater oil exports. Do you agree with the Secretary and the EIA?

Answer: Yes, I agree with the Secretary's comments during his testimony, which also point out that we are exporting oil effectively through products, and notes that we remain significant importers of crude oil.

With respect to the EIA report "What Drives U.S. Gasoline Prices?," while the report notes that domestic gasoline prices are linked to the international crude oil benchmark (Brent), it also notes that the "extent of any actual change in domestic production or the domestic or international price of crude oil that might follow from a relaxation of crude oil export limitations is not addressed in this paper."

Question 3: Do you believe U.S. exports of natural gas by pipeline enhance our nation's international position?

Answer: I believe our overall international position is strengthened by our domestic energy security, which includes energy diversity, production, supply, delivery and a host of other factors. The United States is part of a global market, and our continued investment in, and focus on, responsibly developing and expanding our domestic energy resources and technologies across all energy sources is advantageous to our nation. The Department of Energy supports the Administration's commitment to an all-of-the-above energy strategy, which has underpinned a dramatic surge in energy development and related manufacturing. If confirmed, I would be committed to advancing this approach to enhancing our nation's energy security.

U.S. Senate Committee on Energy and Natural Resources
June 16, 2015 Nominations Hearing
Questions for the Record Submitted to Mr. Jonathan Elkind

Question 4: Do you believe U.S. exports of natural gas by tanker enhance our nation's international position?

Answer: I believe our overall international position is strengthened by our domestic energy security, which includes energy diversity, production, supply, delivery and a host of other factors. The United States is part of a global market, and our continued investment in, and focus on, responsibly developing and expanding our domestic energy resources and technologies across all energy sources is advantageous to our nation. The Department of Energy supports the Administration's commitment to an all-of-the-above energy strategy, which has underpinned a dramatic surge in energy development and related manufacturing. If confirmed, I would be committed to advancing this approach to enhancing our nation's energy security.

Question 5: Do you believe U.S. exports of natural gas liquids enhance our nation's international position?

Answer: I believe our overall international position is strengthened by our domestic energy security, which includes energy diversity, production, supply, delivery and a host of other factors. The United States is part of a global market, and our continued investment in, and focus on, responsibly developing and expanding our domestic energy resources and technologies across all energy sources is advantageous to our nation. The Department of Energy supports the Administration's commitment to an all-of-the-above energy strategy, which has underpinned a dramatic surge in energy development and related manufacturing. If confirmed, I would be committed to advancing this approach to enhancing our nation's energy security.

Question 6: Do you believe U.S. exports of renewable technology enhance our nation's international position?

Answer: I believe our overall international position is strengthened by our domestic energy security, which includes energy diversity, production, supply, delivery and a host of other factors. The United States is part of a global market, and our continued investment in, and focus on, responsibly developing and expanding our domestic energy resources and technologies across all energy sources is advantageous to our nation. The Department of Energy supports the Administration's commitment to an all-of-the-above energy strategy, which has underpinned a dramatic surge in energy development and related manufacturing. If confirmed, I would be committed to advancing this approach to enhancing our nation's energy security.

Question 7: Do you believe U.S. exports of nuclear technology, with appropriate safeguards, enhance our nation's international position?

Answer: I believe our overall international position is strengthened by our domestic energy security, which includes energy diversity, production, supply, delivery and a

host of other factors. The United States is part of a global market, and our continued investment in, and focus on, responsibly developing and expanding our domestic energy resources and technologies across all energy sources is advantageous to our nation. The Department of Energy supports the Administration's commitment to an all-of-the-above energy strategy, which has underpinned a dramatic surge in energy development and related manufacturing. If confirmed, I would be committed to advancing this approach to enhancing our nation's energy security.

Question 8: Do you believe U.S. exports of coal enhance our nation's international position?

Answer: I believe our overall international position is strengthened by our domestic energy security, which includes energy diversity, production, supply, delivery and a host of other factors. The United States is part of a global market, and our continued investment in, and focus on, responsibly developing and expanding our domestic energy resources and technologies across all energy sources is advantageous to our nation. The Department of Energy supports the Administration's commitment to an all-of-the-above energy strategy, which has underpinned a dramatic surge in energy development and related manufacturing. If confirmed, I would be committed to advancing this approach to enhancing our nation's energy security.

Question 9: Do you believe U.S. exports of gasoline enhance our nation's international position?

Answer: I believe our overall international position is strengthened by our domestic energy security, which includes energy diversity, production, supply, delivery and a host of other factors. The United States is part of a global market, and our continued investment in, and focus on, responsibly developing and expanding our domestic energy resources and technologies across all energy sources is advantageous to our nation. The Department of Energy supports the Administration's commitment to an all-of-the-above energy strategy, which has underpinned a dramatic surge in energy development and related manufacturing. If confirmed, I would be committed to advancing this approach to enhancing our nation's energy security.

Question 10: Do you believe U.S. exports of diesel enhance our nation's international position?

Answer: I believe our overall international position is strengthened by our domestic energy security, which includes energy diversity, production, supply, delivery and a host of other factors. The United States is part of a global market, and our continued investment in, and focus on, responsibly developing and expanding our domestic energy resources and technologies across all energy sources is advantageous to our nation. The Department of Energy supports the Administration's commitment to an all-of-the-above energy strategy, which has underpinned a dramatic surge in energy

development and related manufacturing. If confirmed, I would be committed to advancing this approach to enhancing our nation's energy security.

Question 11: Do you believe U.S. exports of other petroleum products enhance our nation's international position?

Answer: I believe our overall international position is strengthened by our domestic energy security, which includes energy diversity, production, supply, delivery and a host of other factors. The United States is part of a global market, and our continued investment in, and focus on, responsibly developing and expanding our domestic energy resources and technologies across all energy sources is advantageous to our nation. The Department of Energy supports the Administration's commitment to an all-of-the-above energy strategy, which has underpinned a dramatic surge in energy development and related manufacturing. If confirmed, I would be committed to advancing this approach to enhancing our nation's energy security.

Question 12: Do you believe U.S. exports of crude oil, currently allowed to Canada with a license and from Alaska without a license, enhance our nation's international position?

Answer: I believe our overall international position is strengthened by our domestic energy security, which includes energy diversity, production, supply, delivery and a host of other factors. The United States is part of a global market, and our continued investment in, and focus on, responsibly developing and expanding our domestic energy resources and technologies across all energy sources is advantageous to our nation. The Department of Energy supports the Administration's commitment to an all-of-the-above energy strategy, which has underpinned a dramatic surge in energy development and related manufacturing. If confirmed, I would be committed to advancing this approach to enhancing our nation's energy security.

Question 13: Do you believe allowing even greater U.S. exports of crude oil would enhance our nation's international position?

Answer: I believe our overall international position is strengthened by our domestic energy security, which includes energy diversity, production, supply, delivery and a host of other factors. The United States is part of a global market, and our continued investment in, and focus on, responsibly developing and expanding our domestic energy resources and technologies across all energy sources is advantageous to our nation. The Department of Energy supports the Administration's commitment to an all-of-the-above energy strategy, which has underpinned a dramatic surge in energy development and related manufacturing. If confirmed, I would be committed to advancing this approach to enhancing our nation's energy security.

U.S. Senate Committee on Energy and Natural Resources
June 16, 2015 Nominations Hearing
Questions for the Record Submitted to Mr. Jonathan Elkind

Question 14: In your testimony, you referred to the fact that the United States is still a major net oil importer. Do you believe President Obama should reverse President Reagan's finding in 1985 allowing U.S. oil exports to Canada, currently approximately half a million barrels per day?

Answer: No, I do not believe that President Obama should reverse President Reagan's finding in 1985 allowing U.S. oil exports to Canada.

Question 15: Are you aware that Canada, Britain, Australia, New Zealand, and other key U.S. allies and partners allow for oil exports even though they continue to import crude oil?

Answer: Yes, I am aware that Canada, Britain, Australia, New Zealand and other key U.S. allies and partners allow for oil exports while continuing to import crude oil.

Question 16: The International Energy Agency supports oil exports. Do you believe the United States should withdraw from the IEA until our nation no longer imports any oil?

Answer: The International Energy Agency (IEA) was founded as a group of nations that import oil, and all members agreed that they would share oil in the event of an emergency shortage in oil markets. Since that time the energy world has changed, and IEA has evolved. Certain IEA members became net exporters; others became net importers; and at least one net exporter became a new member. I believe U.S. participation in the IEA's emergency sharing agreement is a critical way to assure U.S. energy security, which is consistent with U.S. objectives and with the core missions of the Department of Energy

Question 17: Are you aware that one way of reducing net oil imports is by exporting more oil?

Answer: I am aware that there are a number of factors that could result in an increase or decrease in net oil imports, including exporting more oil.

Question 18: Do you believe, in general, that exports of any commodity or product should be prohibited until the U.S. has reduced imports of that commodity or product to zero?

Answer: No, I do not believe that exports of any commodity or product should be prohibited until the U.S has reduced imports of that commodity or product to zero.

Question 19: According to the Energy Information Administration, the United States is still a net importer of natural gas, even though we are quickly heading to net exporter status. Do you believe that we should prohibit natural gas exports until we no longer import natural gas, in gross or net terms?

U.S. Senate Committee on Energy and Natural Resources
June 16, 2015 Nominations Hearing
Questions for the Record Submitted to Mr. Jonathan Elkind

Answer: The export of natural gas is governed by the Natural Gas Act (NGA). Under the NGA, the Department of Energy has established a process to evaluate applications to export natural gas to determine if the export is consistent with the public interest as established under the Act.

U.S. Senate Committee on Energy and Natural Resources
June 16, 2015 Nominations Hearing
Questions for the Record Submitted to Mr. Jonathan Elkind

Questions from Senator Maria Cantwell

Question 1: Mr. Elkind, there has been much activity and discussion about North American clean energy collaboration. Not only is US, Canada, and Mexico collaboration critical to support our clean energy and climate change goals, but there is also significant commercial opportunities for companies that are developing new energy technologies to be able to export to our closest neighbors.

The US-Canada Clean Energy Dialogue's third report recently came out and states: "Greenhouse gas emissions from the energy sectors in Canada and the United States are their dominant source of domestic emissions, and represented 81 percent of Canada's and 84 percent of the United States' total domestic emissions in 2012. Advancing the transition to low carbon economies and combating climate change requires scientific and technological innovation to reduce the "carbon content" of the energy sector. The Clean Energy Dialogue has proven to be a useful and unique platform for our countries to collaborate on clean energy science and technology research, development, and deployment."

I was happy to learn that you were just in Mexico three weeks ago participating in meetings with Energy ministers on this very topic.

Can you outline some of the ways in which collaboration with both Mexico and Canada will help the United States in its pursuit of clean energy and climate change goals? What were some of the most important and meaningful products from your meeting in Mexico and in the most recent US-Canada Clean Energy Dialogue efforts?

How can we ensure that in North America's move to meeting our clean energy and climate change goals we maximize the ability of US companies to participate meaningfully in this transition?

Answer: The meetings in Mexico among the energy ministers from Mexico, Canada, and the United States were extremely productive. North America has deeply integrated economies, abundant resources, shared critical infrastructure, and common values that underpin the long history of collaboration and create an environment for future successful cooperation.

In Merida, Mexico this past May, the three ministers agreed to support the implementation of climate and clean energy goals of each of the three countries, and agreed to collaborate on:

- **reliable, resilient, and low-carbon electricity grids;**
- **modeling the deployment of clean energy technologies, including renewables;**
- **energy efficiency for equipment, appliances, industries, and buildings, including energy management systems;**
- **carbon capture use and storage;**

- **climate change adaptation and resilience; and**
- **emissions from the oil and gas sector, including methane and black carbon.**

Working together on these issues will allow for accelerated innovation and deployment of clean energy policies and technologies that help our three countries meet our respective goals.

Some of the most important projects under the U.S.-Canada Clean Energy Dialogue include:

1) the "Weyburn-Midale CO_2 Monitoring and Storage" project, which completed the final phase of work that began in 2000 to study CO_2 injection and storage in depleted oil fields, and included over 35 individual research efforts;

2) the "North American Carbon Storage Atlas" project that established a harmonized approach for the United States, Canada, and Mexico to gather and share data on major domestic stationary sources of CO_2 emissions and promising geological CO_2 storage formations;

3) a project that expanded the National Renewable Energy Laboratory's ReEDS (regional energy deployment system) model used in the United States to evaluate the effects of various scenarios on the energy system, to include information from Canada to provide an analytical tool to better understand electricity trade between our countries;

4) a project to encourage adoption of the ISO 50001 Standard for Energy Management Systems in U.S. and Canadian industrial and commercial facilities; and

5) a project on the deployment of natural gas in transportation that includes a coordinated approach to addressing common challenges to natural gas vehicle deployment, R&D, and codes and standards.

The private sector plays a critical role in the North American clean energy economy. The majority of U.S. energy infrastructure is privately-owned, including the electricity transmission system needed to connect clean energy resources to the North American grid. Equally important, both generation and end-use technologies are primarily developed and deployed by industry. The Department's role is to work with our Canadian and Mexican counterparts to meet our clean energy and climate goals while enhancing opportunities for American businesses.

Question 2: Mr. Elkind, according to the Pew Charitable Trusts, the clean energy sector is now a $300 billion piece of the world economy. Looking forward at the next decade and a half, two-thirds of energy demand growth will likely occur in developing nations. And

two thirds of that will likely be met using renewable technologies. In line with these trends, the data suggest that clean energy could attract more than two-thirds of the $7.7 trillion worth of expected power investment over the same period.

The same study forecasts that anticipated growth of global power demand from 2012-2030, will be strongest in Sub-Saharan Africa and Asia, including China. Unfortunately, though, only a very small fraction of that investment is being made with American companies' assistance.

You may know that I've been interested in this area for some time. I was pleased to travel to Africa last year to explore opportunities to collaborate on energy issues, and Asia has represented a critical trade partner of Washington State.

What is the Department of Energy doing to help Asia and Africa keep pace with their growing energy demand, and in particular, to help them utilize using clean and renewable technologies that Pew has suggested will be critical?

How can we ensure that in Asia and Africa's move to meeting energy demand we maximize the ability of US companies to participate meaningfully in this multi-trillion dollar opportunity?

Answer: DOE is doing significant work on clean energy in Asia and Africa, helping to meet growing energy demand while working to reduce carbon emissions, and thus expanding the market for U.S. goods and services.

For example, DOE has numerous engagements with China, most of which are public-private partnerships. Key engagements include: the U.S.-China Energy Policy Dialogue, the U.S.-China Clean Energy Research Center (CERC), the Climate Change Working Group, the Energy Efficiency Forum, the U.S.-China Renewable Energy Partnership, EcoPartnerships, the Advanced Biofuels Forum, the Oil and Gas Industry Forum , and the Clean Coal Industry Forum (CCIF). These cooperative efforts have been consistent, positive efforts that encompass joint research, deployment of carbon capture and storage technologies, developing smart grids, reducing vehicle emissions, and promoting energy efficiency. The Department of Energy's close cooperative efforts with China have helped enable ambitious climate policies in both of our countries.

Deputy Secretary of Energy Sherwood-Randall and Secretary of Commerce Pritzker led a Presidential trade mission of 24 leading U.S. companies, ranging from startups to the ranks of the Fortune 50, to China in April 2015 to showcase American businesses that have the technology and expertise to drive economic growth while reducing carbon emissions. The trade mission, which included companies working on green buildings, carbon capture, smart grid, and waste treatment, met senior Chinese officials and potential business counterparts at stops in Beijing, Shanghai, and

Guangzhou. In one of the highlights of the mission, Cummins, Inc., signed a long-term Cooperation Memorandum with Guangzhou No. 1 Public Transit Co., Ltd., (GZPT) the primary municipal bus company of Guangzhou. Under the agreement, GZPT plans to purchase Cummins natural gas engines to promote clean public transportation in Guangzhou City and Guangdong Province.

India's energy demand is expected to double over the next 20 years and the tremendous additional power generation capacity expected across the spectrum of fossil, nuclear, and renewable sources has yet to be built. At the same time, an estimated 70 percent of the appliances and buildings that will exist in India in 2030 have not yet been purchased or built. DOE and other U.S. government partner agencies are engaged in extensive bilateral energy cooperation with India through the DOE-led U.S.-India Energy Dialogue and the U.S.-India Partnership to Advance Clean Energy (PACE). We also work together closely in multilateral forums such as the Clean Energy Ministerial.

As just one example, DOE is promoting U.S. demand response (DR) technologies in India by supporting a partnership among the Lawrence Berkeley National Laboratory (LBNL), an Indian utility, and Honeywell. This project has helped U.S. technology providers identify opportunities to reduce technology costs and harmonize smart grid interoperability standards. The promising results from this effort reflect the mutual benefit of the collaboration between the United States and India. If successfully adopted, DR technologies will benefit Indian utilities and U.S. technology suppliers like Honeywell, GE, IBM, and Johnson Controls, among others. The adoption of DR and automation technologies to leverage flexible demand will help Indian utilities mitigate investment costs for generation and transmission, improve efficiency in power systems, and help utilities integrate large scale variable renewable energy into the grid.

The Department of Energy is also committed to supporting sustainable energy growth in sub-Saharan Africa's power sector. In June 2014, Secretary Moniz co-hosted, with his Ethiopian counterpart, the U.S.-Africa Energy Ministerial in Addis Ababa, Ethiopia. DOE used the event as a launch point for energy engagement and capacity building with African partners throughout the continent. The Department's work with sub-Saharan African countries directly supports the goals of the Power Africa initiative, particularly by making available technical expertise on mini-grids development, natural gas capacity building, and geothermal, solar, and energy efficiency.

Additionally, a number of efforts taking place under the initiatives of the Clean Energy Ministerial (CEM) are focused on accelerating the uptake of clean energy supply in Asia and Africa. For example, the 21st Century Power Partnership is working in India and South Africa to advance integrated policy, regulatory, financial, and technical solutions for the utilities of the future. The Super-efficient Equipment

U.S. Senate Committee on Energy and Natural Resources
June 16, 2015 Nominations Hearing
Questions for the Record Submitted to Mr. Jonathan Elkind

and Appliance Deployment initiative is working with India, Indonesia, South Africa, and the Economic Community of West African States (ECOWAS) to help build technical capacity, develop economy-appropriate efficiency standards, implement product labeling systems, and design other appropriate regulatory mechanisms (such as financial incentive programs and monitoring and evaluation programs) for a wide range of consumer, commercial, and industrial products sold in these economies.

The CEM's energy access initiative, called the Global Lighting and Energy Access Partnership, focuses on decentralized approaches to energy access, recognizing that many rural populations will not be reached by the central grid, at least not in the near- or medium-term. Our work focuses on catalyzing commercial, competitive markets in South Asia and Sub-Saharan Africa to deliver energy access solutions, such as affordable, high quality solar-powered lighting devices, solar-powered home systems, and community-scale mini-grids. U.S. companies now have a significant market share in off-grid solar markets, especially in Africa, thanks to a great extent to DOE's early and ongoing technical support to the World Bank and IFC's Lighting Africa program, which focuses in part on quality assurance.

The United States is home to the most creative, innovative, advanced companies in the world, and these businesses are critical partners in advancing our global agenda. They have the products, services, and technological expertise that the world needs to create a low-carbon, sustainable economy and simultaneously address global climate change.

Question 3: The United States has enjoyed a formal energy relationship with Israel since 2007, rooted in a joint research and development program to allow U.S. and Israel scientists to partner in the creation of new energy technologies. This committee has since prioritized the expansion of this relationship, supporting funding for the program and looking to expand the parameters of that partnership.

Last year, Congress passed the U.S.-Israel Strategic Partnership Act, a far reaching bill that I cosponsored. Energy represented one of the bill's most significant titles. It encourages enhanced research and development, elevated dialogue opportunities, collaboration between U.S. national labs and Israeli research institutes, and the creation of a new platform – a U.S.-Israel center in energy and water – to link our governments, academia and private sectors in a new way; a connection aimed at innovation and entrepreneurship between two of the world's most innovative and entrepreneurial countries.

How do you view the U.S.-Israel energy relationship as it stands today and what opportunities do you see for growth? Do you share my belief that enhanced cooperation in water management is particularly pressing, given the state of much of the American west?

The Strategic Partnership Act prioritized the development of a more robust U.S.-Israel energy relationship and authorized a number of mechanisms, including a U.S. - Israel

center, to help achieve that goal. If confirmed, how would work toward the implementation of these objectives?

Answer: The United States has a strong relationship with Israel on strategic energy matters. If confirmed, I will continue to develop this relationship.

For example, DOE and the Israeli Ministry of National Infrastructures, Energy, and Water Resources (MIEW) jointly lead annual U.S.-Israel Energy Meetings. These annual meetings are a central part of the United States' engagement with Israel on energy matters, and they are a priority for the Department. Through these meetings, DOE works closely with MIEW to have a regular dialogue on energy issues and carry out a robust program of energy cooperation.

DOE will host the next U.S.-Israel Energy Meeting here in Washington this fall. The meeting will cover multiple areas of energy cooperation between the United States and Israel, which Congress has encouraged, including the development of offshore natural gas resources, clean transportation fuels, and critical energy infrastructure protection.

I agree that enhanced cooperation in water management is important. One way DOE is enhancing such cooperation is by facilitating connections between Government of Israel officials, including MIEW officials, and water management experts in the United States. In addition, DOE's Argonne National Laboratory is working now with the University of Chicago and Ben-Gurion University on several joint water/energy nexus projects.

If confirmed, I will work to further the U.S.-Israel energy relationship and continue to implement intent of the U.S.-Israel Strategic Partnership Act. For example, I will continue to ensure that U.S.-Israel Energy Meetings promote deeper cooperation between the United States and Israel. I also will continue to ensure that each such meeting covers the energy topics that are most important to Israel and the United States at the time of that meeting.

U.S. Senate Committee on Energy and Natural Resources
June 16, 2015 Nominations Hearing
Questions for the Record Submitted to Mr. Jonathan Elkind

Question from Senator John Barrasso

Question: In February 2015, President Obama's Council of Economic Advisers issued a report to Congress which states that: "An increase in U.S. exports of natural gas, and the resulting price changes, would have a number of mostly beneficial effects on natural gas producers, employment, U.S. geopolitical security, and the environment."

The report explains that more U.S. natural gas exports would result in an "increase in GDP...rang[ing] from 0.05 percent to 0.17 percent in different export scenarios." It states that U.S. natural gas exports of 6 bcf/d "could support as many as 65,000 jobs" and that "[t]hese jobs would arise both in gas production and along the supply chain (for example, in manufacturing machines and parts used as downstream inputs)." The report also says that "expanded natural gas exports will create new jobs in a range of sectors including natural gas extraction, infrastructure investment, and transportation."

In addition, the report finds that "[m]ore U.S. [natural gas] exports could help promote the use of cleaner energy abroad." Finally, the report states that more U.S. natural gas exports would have "a positive geopolitical impact for the United States." Specifically, it explains that U.S. natural gas exports "build[ ] liquidity in the global natural gas market, and reduces European dependence on the current primary suppliers, Russia and Iran."

Do you disagree with any of the report's statements about U.S. natural gas exports? If so, which statements do you disagree with and why?

Answer: The report's statements support the efforts being made by the Department of Energy (DOE) to review applications for exports of natural gas. The Natural Gas Act requires DOE to grant applications for export authorizations unless the Department finds that the proposed exports "will not be consistent with the public interest."

In 2014, in order to reflect changing market dynamics, the Department changed its procedures to process liquefied natural gas (LNG) export applications. DOE now acts on applications to export LNG from the lower-48 states to non-free trade agreement (FTA) countries after the Federal Energy Regulatory Commission completes its regulatory review process, which includes important factors necessary for DOE to make timely and informed decisions

Since the procedural change, the Department has established a pattern of issuing final LNG export decisions promptly after the Federal Energy Regulatory Commission (FERC) has completed its regulatory review.

The change has done exactly what it was intended to do: streamline the regulatory process for applicants, prioritize DOE resources on the more commercially advanced

projects, and ensured that applications that have completed NEPA requirements will not be delayed by their position in the previous order of precedence.

To date, the Department has issued final authorizations for eight projects totaling 9.99 Bcf/d.

U.S. Senate Committee on Energy and Natural Resources
June 16, 2015 Nominations Hearing
Questions for the Record Submitted to Mr. Jonathan Elkind

Questions from Senator Steve Daines

Question 1: Ensuring a safe and secure electric grid is critically important to keeping energy prices low for Montana consumers. That's why I'm working to strengthen Montana's electric grid by protecting key base loads of Montana's electricity: coal and hydropower.

Coal accounts for over 90 percent of U.S. energy reserves and supplies about 40 percent of the nation's electricity. These resources can be used both at home and abroad, as the global demand for electricity is higher than ever before. More than 1.3 billion people lack access to electricity around the world, with more than half living in developing Asian nations. Coal-powered electricity won't just meet the rising demand for energy in these regions. It will also help lift countless families out of poverty.

While investing in research and development of renewable resources, like wind and solar, is also important, we cannot ignore the vital role coal and other fossil fuels play in powering America and other nations around the world.

Do you support the continued use of coal in the United States?

Answer: Coal plays an important role in our nation's energy portfolio, and will for many years to come. Coal is a key part of the Administration's all-of-the-above energy strategy, and is supported in numerous ways by DOE, including helping enhance the efficiency of coal plants while reducing environmental impacts. Carbon capture and sequestration is a critical part of managing these impacts, in the U.S. and abroad. DOE is supporting the technology that will allow coal to continue to be a competitive part of our domestic energy portfolio.

Question 2: Do you support the export of coal from the United States to other nations around the world?

Answer: For the past ten years, the United States has exported between 3% and 10% of its annual coal production, with 97 million short tons of coal exported in 2014. In its Annual Energy Outlook 2015, the Energy Information Administration (EIA) projects that coal exports will increase from 97 million short tons in 2014 to 141 million short tons in 2040, which represents 13 percent of production. Coal exports will continue to be a part of our energy future, and we are working with our international partners to invest in clean coal technologies to ensure that coal remains an important energy option in a low carbon future.

Question 3: Do you believe that the development of our nation's coal resources will help strengthen the reliability our nation's electric supply?

U.S. Senate Committee on Energy and Natural Resources
June 16, 2015 Nominations Hearing
Questions for the Record Submitted to Mr. Jonathan Elkind

Answer: In 2014, coal-fired power plants provided 39% of the total U.S. electricity generated; coal has served as a baseload resource supporting our nation's electric power system. Coal, along with other resources, will continue to be a necessary part of our nation's electric power system.

Historically, the electric utility sector has a strong track record of protecting the reliability of our Nation's electric grid. Working collaboratively with federal and state governments, regulators, utilities, vendors, and other stakeholders have developed technologies, tools, processes and procedures that protect our Nation's critical infrastructure. That record is one that should make us all proud and one we should work together to sustain.

U.S. Senate Committee on Energy and Natural Resources
June 16, 2015 Nominations Hearing
Questions for the Record Submitted to Mr. Jonathan Elkind

Question from Senator Rob Portman

Question: I visited Ukraine in April as well as during last year's presidential elections. While there, I heard a lot about the nation's nuclear industry. Ukraine relies on nuclear energy for 50 percent of its electricity and is dependent on Russia for nearly all of its nuclear fuel.

I know that DOE has been working with Ukraine and Westinghouse since 2003 to certify Westinghouse's nuclear fuel supplies for use in Ukrainian reactors. In December, Westinghouse and Energoatom announced an agreement to increase fuel deliveries to Ukrainian nuclear power plants through 2020.

The Ukrainians appear to want to continue to expand this relationship and further diversify their nuclear fuel supplies.

What should DOE be doing to assist Ukraine with diversifying its nuclear fuel supplies?

Answer: The Department of Energy (DOE) believes that U.S. support for Ukraine is an urgent priority for the United States, as the Government of Ukraine (GOU) works to establish the country's security and independence, implement key reforms particularly in the energy sector, stabilize and revive its economy, and ensure government institutions are transparent and accountable to the Ukrainian people. Specifically, DOE is working in the following areas:

- **Together with partners from Canada and the European Union, DOE is committed to working with the GOU to provide the necessary technical assistance so that the country can develop a winter action plan to address the challenges the country may experience in the upcoming 2015-2016 winter. DOE is working with the GOU to develop both a short-term energy contingency plan and a longer term National Energy Resilience plan. The longer term plan will also be a tool which GOU decision-makers can use to better understand the interdependencies in the generation, transmission, transport, storage and distribution of energy across all sectors, to improve information-sharing among ministries, and to coordinate responses to energy shortages. This is the follow-on effort to the joint U.S.-Canadian initiative begun in September 2014.**

- **DOE is also working to facilitate the implementation of several key projects that are intended to modernize the country's nuclear reactor control systems, and enhance the country's energy security by diversifying sources for the procurement of nuclear fuel as well as managing used nuclear fuel.**

U.S. Senate Committee on Energy and Natural Resources
June 16, 2015 Nominations Hearing
Questions for the Record Submitted to Mr. Jonathan Elkind

- **More broadly, the Department is continuing to work closely with the Ukrainian government and with other G-7 partners to strengthen energy security and deliver critical resources to the region, which was set in motion at the G-7 Energy Ministerial Meeting in Rome last year.**

U.S. Senate Committee on Energy and Natural Resources
June 16, 2015 Nominations Hearing
Questions for the Record Submitted to Mr. Jonathan Elkind

Questions from Senator Mazie K. Hirono

Question 1: Hawaii and Okinawa have an agreement to work on energy issues that confront both of them as island communities. Hawaii – Okinawa Clean Energy Partnership supports the exchange of ideas, people, and projects to increase the use smart electric grid technologies, improve energy-efficiency of buildings, develop the ocean's heat as a source of energy, among other projects. The agreement with Okinawa is part of the larger U.S. – Japan Energy Policy Dialogue, which is an important forum for advancing energy cooperation with such an important ally in the Pacific region.

Can you describe what you consider to be the chief benefits of the U.S. – Japan Clean Energy Policy Dialogue and what more you think can be done to further strengthen our energy relationship with Japan?

Answer: President Obama and then-Prime Minister Kan launched the U.S.-Japan Energy Policy Dialogue (EPD) in 2010 to bring together U.S. and Japanese policy leaders and experts to enhance cooperation on the development and deployment of clean energy technologies. A key benefit of the EPD is its function as a standing mechanism for the United States and Japan to share information and perspectives on our respective energy policies, energy security and other issues of concern, and advance mutually beneficial cooperation on clean energy technology.

Through the EPD, U.S. and Japanese policy makers have discussed such diverse topics as Japan's evolving energy policy of the availability of rare earth elements and other critical materials, and Japan's interest in exports of U.S. natural gas. On the technology front, the EPD serves as a coordinating mechanism for collaboration in areas like fuel cells, geothermal, microgrids, and cyber security. The U.S. and Japanese governments have also used the EPD to strengthen our mutual support to the clean energy partnership between Hawaii and Okinawa. At the EPD in February 2015, the four main participants decided to extend this partnership, based on a work plan reflecting the priorities of Hawaii and Okinawa, in such areas as grid stability, clean transportation, renewable energy, energy efficiency, and innovation.

In April 2015, DOE and Japan's Ministry of Economy, Trade and Industry signed an agreement with the aim of further expanding our technology cooperation under the EPD, a process already underway. In addition, in 2012 DOE partnered with the Department of Commerce to launch an annual U.S.-Japan Business Roundtable in conjunction with the EPD. Through the Business Roundtable, U.S. companies have been able to gain insights into Japan's energy policy and regulatory environment, and to pursue partnerships and business opportunities in the Japanese market. In turn, U.S. and Japanese policymakers at the EPD have welcomed and benefitted from feedback from the U.S. and Japanese business community on the challenges and opportunities they face in the energy markets in each of our countries.

U.S. Senate Committee on Energy and Natural Resources
June 16, 2015 Nominations Hearing
Questions for the Record Submitted to Mr. Jonathan Elkind

Question 2: Your testimony mentioned the Department of Energy's work with our Caribbean partners on Clean Energy. The people of Hawaii understand the unique challenges that come with living on islands. We face the highest energy costs in the United States and are working to reduce our reliance on imported petroleum as our main fuel source. Hawaii recently passed a law requiring that 100 percent of the state's electricity to come from renewable sources by 2045.

What is your future agenda for helping the island communities in the Caribbean develop and integrate renewable energy sources and how would you apply those lessons to islands in the Pacific, such as Palau or Micronesia?

Answer: If confirmed, I will continue to work on the Department of Energy's engagements that cover a broad range of activities focused on developing and integrating renewable and clean energy sources and energy efficiency improvements across the Caribbean.

DOE's main Caribbean activities that provide lessons to share with Pacific islands and opportunities for replication across the globe include:

- **Cooperative agreements with Jamaica to help the country develop its renewable energy sector, and Trinidad and Tobago to stand up a Caribbean Renewable Energy Research Center.**
- **A Caribbean Hotel Energy Efficiency and Renewable (CHEER) Partnership with the Overseas Private Investment Corporation to help the hospitality sector reduce energy and water consumption and incorporate renewable energy technologies.**
- **Leading a Caribbean-wide Energy Education and Capacity Building Working Group to share best practices and curriculum at every educational level focused on clean and renewable energy.**
- **Supporting a microgrid pilot project on St. Croix that will demonstrate the value and resiliency of modern microgrids by combining existing fossil fuel based generation with cost effective renewable energy, supporting energy storage, and integrated demand response.**
- **Though not a renewable energy source, cleaner-burning natural gas is also an area of focus for DOE activities in the Caribbean. We are working with the Inter-American Development Bank on the feasibility of a natural gas market in the Caribbean, how natural gas can best pair with renewable sources for electricity generation, and DOE's role in the natural gas export process.**
- **Based on partnerships with Hawaii and the U.S. Virgin Islands, DOE and the National Renewable Energy Laboratory (NREL) have also designed an Islands Energy Playbook. The Playbook is an action-oriented guide on how an island can successfully initiate, plan, and complete a transition to an energy system that primarily relies on local resources to eliminate a dependence on one or two imported fuels. The Playbook is intended to serve as a readily available framework that islands in the Pacific or in any community can adapt to organize for their own energy transition effort.**