

URANIUM ENRICHMENT FUND

HEARING BEFORE THE COMMITTEE ON ENERGY AND NATURAL RESOURCES UNITED STATES SENATE ONE HUNDRED TENTH CONGRESS

FIRST SESSION

TO

RECEIVE TESTIMONY ON S. 2203, A BILL TO REAUTHORIZE THE URANIUM ENRICHMENT DECONTAMINATION AND DECOMMISSIONING FUND, AND FOR OTHER PURPOSES

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URANIUM ENRICHMENT FUND

THURSDAY, NOVEMBER 15, 2007

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

The committee met, pursuant to notice, at 10:08 a.m. in room SD-366, Dirksen Senate Office Building, Hon. Jeff Bingaman, chairman, presiding.

OPENING STATEMENT OF HON. JEFF BINGAMAN, U.S. SENATOR FROM NEW MEXICO

The CHAIRMAN. Why don't we go ahead and get started. As you might guess, this sort of bumping up against the end of this week a little bit, we're going to have some people coming and going, including myself, here, as we proceed.

But let me start, and make a few statements and then call on Senator Bunning for any comments he's got, and then hear from our Assistant Secretary and then we'll bring on the next panel, as well.

The purpose of today's hearing is to receive testimony on S. 2203, the Uranium Enrichment and Decontamination and Decommissioning Fund Reauthorization Act of 2007.

We thank the witnesses for taking time from their schedules to be here.

The bill that has been referred to the committee, proposes to reauthorize section 1802 of the Atomic Energy Act, more commonly known as the Uranium Enrichment and Decontamination and Decommissioning Fund. This was a bill enacted into law by the 1992 Energy Policy Act. At The time that this section was enacted we were privatizing our government's uranium enrichment facilities, which had entered into contracts with the utilities to enrich uranium for our light water reactors. This was in addition to producing enriched uranium for our nuclear weapons program.

As part of that privatization, the Congress determined that the utilities should contribute an equitable amount toward the cleanup of these enrichment plants, prior to the date of privatization. The utilities' share was determined to be \$150 million annually for 15 years, capped at \$2.2 billion, with the government paying, on average, \$30 million annually, to make an annual contribution of \$480 million.

The Act's authorization has expired, but the cleanup continues at the plant in Oak Ridge, Tennessee. It has not yet begun in earnest at the two other facilities in Paducah, Kentucky, and Portsmouth, Ohio. The Paducah plant is still operated by the United States En-

richment Corporation, USEC, with operations ending in 2012. The Portsmouth plant is currently leased to USEC until 2009, where USEC is also building a new centrifuge facility.

In a report to Congress, the Department of Energy notes the Fund has receipts of \$9.2 billion, has spent \$4.2 billion, and projects cleanup to extend to the year 2044 with an \$11 billion shortfall.

The bill before us today proposes to reauthorize the existing program for another 10 years, raising the annual cap to \$700 million. It continues the \$150 million annual assessment on the utilities, capped again at \$2.2 billion, referenced from the date of the reauthorization.

I look forward to hearing the views of all witnesses on the subject, and let me call on Senator Bunning for any comment he has.

[The prepared statements of Senators Salazar and Brown follow:]

PREPARED STATEMENT OF HON. KEN SALAZAR, U.S. SENATOR FROM COLORADO

Thank you Mr. Chairman and Ranking Member Domenici for holding today's hearing on the reauthorization of the Department of Energy's Uranium Enrichment Decontamination and Decommissioning Fund. The D&D Fund is critical to the ongoing cleanup of several contaminated sites across the Nation, and today's hearing is an important opportunity to assess the Fund's framework.

The legacy left by decades of uranium mining and enrichment activities has been a number of environmentally contaminated sites in need of remediation. The environmental damage wrought by uranium mining and enrichment is a burden that we still bear, and our shared duty to clean up these sites and repair the land has not yet been discharged.

Fifteen years ago, Congress did the right thing by creating the D&D Fund. The sites and communities that mined and enriched uranium provided a crucial service to our military and our domestic nuclear utilities. Their product clearly had broad societal benefits. The Fund's original principle that the cost of cleanup should be shared between the Government and the electric utilities was sound in 1992 and is sound today.

My state of Colorado has benefited directly from the Fund. While the principal reason the Fund was created was to cleanup the three legacy uranium enrichment facilities in Tennessee, Kentucky and Ohio, cleanup of a number of uranium mines—including two in my state—has also been facilitated by the Fund. In fact, nearly \$53 million has been provided by the fund to cleanup uranium mine tailings in two Colorado communities.

By failing to reauthorize the Fund, we would jeopardize the continuation of these important environmental remediation projects. As stewards of our land, water, and air, we owe it to future generations to restore our environment where past acts of necessity have caused harm. The D&D Fund is a critical tool in minimizing the long-term environmental impacts of our past uranium production and enrichment efforts. We should act to ensure that the Fund provides sufficient resources to achieve these goals.

I look forward to hearing from the members of our distinguished panel and discussing this important legislation.

PREPARED STATEMENT OF HON. SHERROD BROWN, U.S. SENATOR FROM OHIO

Thank you Chairman Bingaman and members of the Committee.

I appreciate the opportunity to submit testimony on behalf of the people of Pike County, Ohio and McCracken County, Kentucky, for whom a stable and fully-funded Decontamination and Decommissioning (D & D) Fund is critically important.

We need to ensure we clean up our nuclear legacy sites and we need to do this as part of our future policy regarding nuclear energy. If we don't clean up our nuclear waste, we can't in good faith consider a future for nuclear energy in this country.

In 1992, Congress created the D & D fund. The program was to clean up the old gaseous diffusion enrichment plants in Tennessee, Kentucky, and Ohio. The fund was designed as a partnership between the nuclear industry and the federal government.

The commercial nuclear power industry has long benefited from its partnership with the federal government. The government transferred domestic nuclear technology it had invented to private companies for domestic electricity production. As part of this partnership, the nuclear industry has and continues to purchase enriched uranium from the old enrichment plants.

After nearly 50 years of operation, these enrichment plants are some of the most contaminated areas in our country. Since Paducah and Piketon are both within the Ohio River Basin's watershed, without the proper cleanup, contamination from these facilities could endanger the entire population from Cincinnati to New Orleans.

The D & D fund has worked. But, as we all know, much more needs to be done. Decades of cleanup remain.

We can debate the numbers and the amount of money it will cost to clean up the sites, but we all know that the current account of the fund is woefully short. After 15 years, the D & D fund was supposed to expire. In those 15 years, we've learned that the cleanup is going to cost much more than originally thought.

S. 2203, the Uranium Enrichment Decontamination and Decommissioning Fund Reauthorization Act of 2007, is a straight reauthorization. It simply extends the D & D fund for 10 more years.

We know after these 10 years there still might not be enough money to complete the cleanup, but this is a fair amount of time to start the work and after a decade, we can better determine how to go forward. S. 2203 also calls for a study by DOE to look into how best to use the uranium tails at Piketon and Paducah for the benefit of the sites.

This provision will permit all parties to come together and determine how best to use a federal government asset for the betterment of its people.

For too long, policies have pitted the people of the Appalachian cities of Paducah and Piketon against one another. This has to end. This bill works with, rather than dictates to, the people of the enrichment communities. S. 2203 aims to bring everyone to the table to figure out how to go forward.

These communities helped the United States win the Cold War and have supplied the commercial nuclear power industry for decades. We can't turn our backs on them.

The need for the D & D fund is just as great today as when it was created. S. 2203 is a fair and forward looking bill that will help clean up our nuclear past. If we do not plan for this clean up in a responsible manner, that breach of trust will surely compromise support for nuclear power in the future.

Thank you Mr. Chairman.

STATEMENT OF HON. JIM BUNNING, U.S. SENATOR FROM KENTUCKY

Senator BUNNING. Thank you, Mr. Chairman. I would like to thank the witnesses for appearing here this morning, to discuss this important issue.

There are three plants, as the Chairman has said, one in Tennessee, one in Kentucky, and one in Ohio, that together allowed America to make rapid advancements in nuclear energy and weapon technology in the last century.

These plants push the envelope, often without realizing the environmental and safety consequences. I have worked tirelessly to ensure that the uranium worker in Paducah, Kentucky, and the other two plants, receive the medical benefits they deserve for their services.

I appreciate this committee's help in the last few years, as we moved the Energy Employees Occupational Illness Compensation Program from the DOE to the DOL, and as I have worked for more funding for the Farmer Medical Workers Screening Program.

We have a Federal obligation to these workers, and I am proud to work for their benefits in Congress.

But today we will address—as the Senator from New Mexico has said—S.2203, the cleanup at the plants themselves. This has been a 15-year agreement, since 1992, on decontamination and decom-

missioning of these plants. As the GAO will tell us today, we have not had enough money in the D&D Fund to accomplish our goals.

I would like to hear from the witnesses today about the Federal Government's responsibility to clean up these three plants. The proposals for moving forward, and what Congress needs to do to ensure a fair outcome for the taxpayers, the communities, in particular, and the nuclear energy industry, also.

I believe that we owe it to these communities—I can only talk to you about two, I have not been to the Tennessee plant, but I have been to the one in Portsmouth, and the one in Paducah numerous times—and the cleanup, as the Chairman said, is only occurring in Tennessee. We have some cleanup, but not the decontamination and decommissioning going forward at all, because they're still producing enriched uranium at those two plants, one in Paducah and one in Portsmouth.

I believe that we owe it to the communities, particularly, and the land that they sacrifice for our national security, and the nuclear energy industry.

I look forward to the testimony today. Thank you very much, Mr. Chairman.

The CHAIRMAN. Thank you very much.

Let me see, Senator Domenici, did you wish to make a statement now, or to wait until after this witness?

Senator DOMENICI. I'll wait and when I make my first questions, I'll do that.

The CHAIRMAN. All right, very good.

Our first witness is Assistant Secretary of the Department of Energy for Environmental Management, Mr. James Rispoli, and we very much appreciate you being here. Go right ahead.

STATEMENT OF JAMES A. RISPOLI, ASSISTANT SECRETARY FOR ENVIRONMENTAL MANAGEMENT, DEPARTMENT OF ENERGY

Mr. RISPOLI. Good morning, Mr. Chairman, Senator Domenici, Senator Bunning. It's good to be here, I'm happy to be here to address questions and issues, regarding the Uranium Enrichment and Decontamination and Decommissioning Fund. I particularly want to thank you, Mr. Chairman for—and the committee—for your interest in the D&D of the Nation's gaseous diffusion plants in Tennessee, in Kentucky and in Ohio.

These three plants were used to support the production of nuclear materials for the Nation's weapons program, and also, to support the commercial nuclear power industry, and are some of the largest buildings ever constructed.

Since the establishment of the Fund, the Department has completed cleanup of three out the 12 very large, massive process buildings, 242 of 523 support facilities, and 116 of 231 planned environmental remedial action. As a direct result of past cleanup efforts, we have made significant headway at the first of the three gaseous diffusion plants.

That is, the one in Tennessee at the East Tennessee Technology Park, formerly known as the K-25 plant, and of course it's on the Oak Ridge reservation in Tennessee. The East Tennessee Technology Park's five main processing buildings alone, covered 114

acres. I would just interject that the other two plants are not quite as big, but they're in the same range of size. The one in Tennessee is 114 acres under roof, in just the main process plants.

To put that in perspective, that is bigger than all of Rocky Flats which, as you know, we had to D&D and clean up, and an older golf course, a regulation golf course, typically an older one would be about 100 acres. Today, if you build golf courses of that scale, they're 80 to 120 acres. We have 114 acres under roof at ATTP. Very, very significant sized buildings.

Much cleanup still must be performed at these gaseous diffusion plants. In order to sustain funding over the life cycle of this D&D and environmental remedial action, the Department of Energy is recommending that the Fund be reauthorized to allow the government to make up its contribution shortfall to the fund.

These shortfalls date from the first 3 years of the fund. If the Congress reauthorizes the Fund to allow the government to complete its contribution obligation under the Energy Policy Act of 1992, if we do that, then we project that the Fund will remain sufficient until approximately 2020.

If you look in the report we've provided, there's a base case, but again, the range is—we are quite sure it would be sufficient until 2020.

To complete all of the gaseous diffusion plant cleanup, our conclusion is that an additional \$8 billion to \$21 billion more will be needed. Our 2007 report to the Congress, as I mentioned, does present a base case, and calculates a shortfall of about \$11 billion in current year dollars, to complete the gaseous diffusion plant cleanup activities.

We also recommend that environmental remedial action activities, an integral part of the D&D work scope, continue to be funded from this Fund, to provide stability and consistency in the cleanup efforts.

Thank you for allowing me this opportunity to testify. I would be pleased to take any questions at this time.

[The prepared statement of Mr. Rispoli follows:]

PREPARED STATEMENT OF JAMES A. RISPOLI, ASSISTANT SECRETARY FOR
ENVIRONMENTAL MANAGEMENT, DEPARTMENT OF ENERGY

Good morning. My name is James Rispoli, Assistant Secretary for Environmental Management at the Department of Energy (DOE). I am pleased to be here today to answer your questions regarding the Uranium Enrichment Decontamination and Decommissioning (UED&D) Fund. Mr. Chairman, I want to thank you and the Committee for your interest in this complex and challenging program of decontaminating and decommissioning the Nation's gaseous diffusion uranium enrichment plants—also called "GDPs"—in Oak Ridge, Tennessee; Paducah, Kentucky and Piketon, Ohio. These three uranium isotope separation facilities were created in part to support the production of nuclear materials for the Nation's weapons arsenal and are some of the largest buildings ever constructed.

In 1992, the U.S. Congress enacted the Energy Policy Act of 1992 (EPAct 1992), which amended the Atomic Energy Act of 1954 and created the UED&D Fund. The primary purpose of the Fund is to provide resources for the cleanup liability of past uranium enrichment operations at the GDPs 1 through deposits from annual appropriations, domestic nuclear utility contributions, and accumulated interest. EPAct 1992 provided that as long as sufficient funds remained, all costs for decontamination and decommissioning and environmental remedial action cleanup efforts of the Department shall be paid from the Fund until such time as the Secretary certifies and Congress concurs that such activities are completed.

Much work remains to complete this important program. The task of completing decontamination, decommissioning and environmental remedial action projects involves the planning and execution of large projects. These facilities are contaminated with a mixture of industrial, chemical, special nuclear and radiological materials. Since the establishment of the Fund, the Department has completed cleanup of three out of the 12 massive process buildings, 242 of 523 support facilities, 116 of 231 planned environmental remedial actions, and disposal of 12.8 million cubic feet of the expected 46 million cubic feet of waste materials. As a direct result of past cleanup efforts, we are nearing the completion of cleanup at the first of the three GDPs, namely, the East Tennessee Technology Park (ETTP), formally known as the K-25 Plant, in Oak Ridge, Tennessee. The ETTP's five main process buildings alone covered 114 acres. Our current projection to 2 complete the cleanup of this site is 2012. Detailed progress for each site is contained within DOE's fifth Triennial Uranium Enrichment Decontamination and Decommissioning Report (fifth Triennial Report),* which the Department recently provided to Congress.

A major benefit of the work completed at ETTP and the other plant sites is the accumulation of project experience upon which to base a more accurate cost estimate for the remaining work. In order to provide the Congress with this information, the Department has recently completed an extensive revision of the previously reported cost estimates including independent cost estimates for the Portsmouth and Paducah Plants by the U.S. Army Corps of Engineers. The results of this revised estimate are captured in a "Base Case" to illustrate a projected cost estimate and several sensitivity cases. The Base and sensitivity cases address a range of economic factors, scope, and schedule assumptions. Utilizing this recent information, the "Base Case" and sensitivity case options became the cornerstone of the Fund analysis provided in the fifth Triennial Report. Our conclusion is that the UED&D Fund would need, in addition to the current balance of \$4.1 billion, between \$8 billion to \$21 billion more to complete the GDP cleanup activities, with \$11 billion estimated under the Base Case. All estimates assume that the 3 Government will make up its contribution shortfalls which occurred when the Department did not deposit its full obligations during the first three years of the UED&D Fund.

Significant cleanup activities remain to be performed at the GDPs. In order to sustain funding over the life-cycle of these D&D and environmental remedial action projects, DOE is recommending that the UED&D Fund be reauthorized to allow the Government to make up its contribution shortfalls to the Fund. If the Congress reauthorizes the Fund to allow the Government to complete its obligation under EPAct 1992, we project the Fund will remain sufficient until approximately the 2020 timeframe. We also recommend that environmental remedial action activities, as an integral part of the D&D workscope, continue to be funded from the UED&D Fund. The Department recognizes that there are a range of options available to address the projected shortfall in the Fund: Government only contributions, both Government and nuclear utility contributions, direct appropriations, or some combination of these options. One of these options will be needed to provide funding to complete the cleanup at the three GDP sites. As required by EPAct 1992, the Secretary of Energy was directed to collect special assessments from domestic utilities that benefited from the uranium 4 enrichment operations. The assessments were based upon a ratio of each utility's share of material purchased from the government resulting in a total annual assessment of \$150 million, adjusted for inflation, for the 15 years. In FY 2007, the domestic nuclear utilities completed their 15-year assessment obligation as enacted in EPAct 1992.

DOE continues to focus on the recommendations from the GAO and the Congress to improve our cost estimates, schedules and plans for the GDPs. We continue to seek disposal alternatives and recycling opportunities with our stakeholders to reduce cost and shorten cleanup schedules. Our most recent initiatives include a business strategy to develop a competitive procurement for the cleanup of the Portsmouth facilities. We are leaning heavily on our lessons learned from projects at ETTP and other decontamination projects with a history of waste minimization. We look forward to continued discussions with the Congress as new opportunities are realized, and as our GDP cleanup projects progress.

Thank you for allowing me this opportunity to testify before your Committee. This completes my formal statement. At this time, I would be pleased to answer any questions.

The CHAIRMAN. All right, let me start and ask a few questions here.

* Report has been retained in committee files.

Let me just clarify, as I understand your testimony, the Department is not in favor of the reauthorization of this provision of law, is that right? Or is it in favor?

Mr. RISPOLI. Mr. Chairman, the Department recommends that the law be reauthorized to permit the government to make up its shortfall in its contribution that dates back to the first several years of the Fund's establishment back in the early 1990s. So, we do request—and have requested in writing—that the Act be reauthorized to permit us to do that.

Now, to put that in perspective, we have a shortfall of about \$1.8 billion, including the interest that would have accrued on this, had the money been in since the days it should have been. We've been putting in \$450 million a year, roughly, so we would like to restore the \$1.8 billion contribution, as we calculate it would be necessary to make the government's contribution whole and current.

The CHAIRMAN. You believe you have to have additional legal authority to do that?

Mr. RISPOLI. As we understand the law, Mr. Chairman, we have the authority to keep withdrawing from the Fund, we don't have the authority to deposit to the Fund. The authorization has expired. So, we would request the reauthorization for several years to be able to contribute the overdue, the government share that was not put in back in the early 1990s.

The CHAIRMAN. Your view is that industry should not have to contribute any additional funds.

Mr. RISPOLI. At that point in time we have not taken a position either that industry should, or should not, contribute. We are asking, however, that the Fund be reauthorized to permit us to make up, as I stated, that government contribution.

The CHAIRMAN. I think a key part of what this committee is going to have to decide if we vote on this legislation, is whether we believe that the law should direct that industry continue contributing. But you take no position on that?

Mr. RISPOLI. That is correct at that time, Mr. Chairman.

I might add that we have done early analysis, we understand that there are pluses and minuses to any option that we take. The options, of course, would be the government contributes alone—only the government contributes in the future. Another would be that both the government and industry contribute. A third might be that, after the government makes up its overdue payment, that the Fund would not be reauthorized, and we would pay from annual appropriations.

We like the Fund, because it gives us the stability to foresee how much is there, we know that we can afford to do the work that has to be done with minimal impact to the actual progress of the work. But clearly there are options we need to evaluate. We would like to dialog with Members of Congress, with this committee, other interested committees, stakeholders, before we make a recommendation as to whether or not industry should contribute, or in fact, which of those options, or any others, that might be presented would be the best option.

The CHAIRMAN. Am I right in the information that I have here that the cleanup of these three plants is expected to continue until 2044, is that your estimate?

Mr. RISPOLI. Yes, Mr. Chairman, that is correct.

The CHAIRMAN. Let me just have you repeat again how much of a shortfall you see in the funding.

I mean, if we go ahead and contribute the \$1.8 billion that you have indicated you would like authority to contribute, there is still a substantial shortfall projected, as I understand it, between what would, has been raised, or is authorized to be raised, and how much it will cost to do these cleanups. Do you know what that figure is, again?

Mr. RISPOLI. Yes, Mr. Chairman, we've spent a good amount of effort—as you might know—we had the U.S. Army Corps of Engineers review all of the estimates we have. They did the review in late 2006, so that now we have a much higher degree of confidence.

I might state that ever since the day the Fund was established, both we and the GAO have recognized that the Fund would not be sufficient with the 15-year authorization for contributions when it was set up. So, that's not a surprise, that the Fund is not sufficient.

To more directly answer your question, after the Army Corps of Engineers did their review, they looked at several cases. The base case that I will refer to you is that the Fund will be deficit by about \$11 billion.

Now, on page 34 of the report, for your future reference, is a simplified table that shows different scenarios, where the range would go from being short about \$11 billion, the low point is being short about \$8.2 billion, but the high point would go all the way to about \$21 billion.

So, there is still a range, but the base case would represent about \$11 billion shortfall.

The CHAIRMAN. All right, let me defer to Senator Domenici or Senator Bunning. I'm going to have to run to another meeting, and so I'll just ask Senator Domenici or Senator Bunning to conduct the hearing until I'm able to return.

Thank you.

Senator DOMENICI. How long will you be, Mr. Chairman?

The CHAIRMAN. Maybe a half hour.

Senator DOMENICI. We'll make it.

The CHAIRMAN. If you're not able to—

Senator BUNNING. We'll make it.

The CHAIRMAN. You guys can handle it until then, and we're told Senator Tester is coming to ask some questions and to participate, too. So, he can participate.

Senator BUNNING [presiding]. Mr. Secretary, you testified based on the updated DOE projection, that the shortfall will be anywhere between \$8 and \$21 billion.

You also, if I heard your earlier testimony right, said that there is a surplus in the Fund presently, that we haven't spent out all that is in the Fund, is that incorrect or correct?

Mr. RISPOLI. Senator, that is correct. The balance as of today is somewhere close to \$4 billion.

Senator BUNNING. You need us to act so that you can spend out \$1.8 billion that you think the Federal Government ought to make up the shortfall that they fell in the first 2 or 3 years of the program?

Mr. RISPOLI. Senator—

Senator BUNNING. That's all been done at Tennessee, though, hasn't it? All of the decommissioning and the things that are in this bill?

Mr. RISPOLI. The bulk of the work to this date was, in fact, done in Tennessee. Small amounts of work are being, and have been done in Portsmouth and Paducah. There actually is—in the report, at page, it's in Tab B, there's a separate sheet for Tennessee, there's a separate sheet for Portsmouth, Ohio, an actual piped-in plant, and there's also a separate sheet for Paducah that shows, by year, what the funding plans are, for funding the work on—

Senator BUNNING. I've seen the remediation and the changes made in Paducah, in person, on the scrap heap and all of those kind of things that have been done. But, they're still producing uranium at Paducah. So, therefore you're not going to decommission the plant until they stop producing it. That's supposed to be about 2012. Or thereabouts, depending on what USEC does in Portsmouth with their new projected plant, if they do actually build their new projected plant in Portsmouth.

My question to you is, why shouldn't the nuclear power energy people that are using a product that's being produced at Paducah, the enriched uranium, at their power plants, help defer the costs of cleaning up those power plants?

Mr. RISPOLI. Senator, I do understand your question, I will indicate to you that the Department is looking at that, we're in fact looking for views from Senators and Members of Congress on whether or not industry should contribute, whether the government should do all future contributions, how to fund the balance of the cleanup. We'd like to also have dialog with stakeholders.

I think, again, there are pros and cons either way, as to whether or not industry should continue to contribute, but we have not made a determination, or a recommendation.

Senator BUNNING. But we're talking about a bill, presently. S.2203, that indicates that we think, as a committee, the stakeholders are those who use the products that are produced, should have a stake in cleaning up the area that is producing that uranium. That's what we're asking for information from you about.

We think that there's a stake in the power industry—particularly our nuclear power industry—it isn't a big burden on those who use it, but it's a portion of the overall D&D commissioning, decommissioning, that we think would help meet that shortfall in the out years. Particularly, when you're talking about going to 2020, and knowing full-well that we're going to 2044. There's going to be a time that the Federal Government's going to have a responsibility, and we'd like someone else—if they're using that enriched uranium to make energy, and they sell it to the public, they ought to be able to help us pay for the cleanup.

Mr. RISPOLI. Yes, Senator. I understand that position, and we at the Department understand that position.

Senator BUNNING. You just don't have a position on that.

Mr. RISPOLI. We just don't have a recommendation to the Congress as to which way to go.

What we have asked by letter and in our testimony is that this Act be reauthorized, so that we can make up the contributions that

the government owes, and if it were, say, reauthorized for 3 or 4 years, we would be able to get to you a recommendation, after we consult with you, and other Senators and Congressmen and the industry as to a—as a departmental and a——

Senator BUNNING. Then, you'd rather have a short-term, rather than a long-term reauthorization.

Mr. RISPOLI. At the present time, that's what we have asked for, yes sir.

Senator BUNNING. The bill that we're considering is a 10-year program.

Mr. RISPOLI. I understand that, that's right.

Senator BUNNING. OK, I've already gone over my time.

Senator TESTER [presiding]. Senator Domenici.

Senator DOMENICI. Thank you very much, Mr. Chairman.

I arrived late and did not have any opening remarks, and I was going to give them just before my questions, that was what we arranged, and I'm going to do that, it's very brief.

Senator TESTER. That's fine.

**STATEMENT OF HON. PETE V. DOMENICI, U.S. SENATOR FROM
NEW MEXICO**

Senator DOMENICI. Welcome to all of the witnesses, I hope we won't keep you long. I'm pleased that Senator Bingaman scheduled this hearing, to examine the uranium enrichment D&D fund and possible need to reauthorize payments into the Fund.

That said, we have not had a hearing on this program since we created the Fund in the Energy Policy Act of 1992, 15 years ago. We know very little about the operation of the Fund; you know a lot. We know very little about the Department of Energy's use of the moneys thus far, or the future cleanup plans.

It is somewhat strange to me, why the committee has rushed to legislative hearings on S. 2203, that would simply increase annual deposits and extend the Fund for 10 years. This seems premature, and it would seem that we need to know an awful lot more. It's very complex. It's not as simple as just saying, let's redo it. Fifteen years has seen dramatic change in this industry, in decontamination and the way we do it.

There have been tremendous changes, as I indicated, in 15 years, and all of the circumstances surrounding the former DOE enrichment enterprise, its utility customers, the clean up technology, and a host of other variables that I'm sure will affect our decision on reauthorization and the details of any legislation.

With that in mind, for myself, I intend to proceed very thoughtfully and carefully to examine all of the issues related to reauthorization of the Fund, and the options that might be available. Hopefully, today's hearing will be a first good step in getting us, and others, current in a way that will be understandable and useable by Congress, and as we look forward to extension of the Fund through authorization, it is my hope that we will also look at other issues that surround this complex matter.

There are others besides just reauthorizing this fund, are there not, Secretary Rispoli?

Mr. RISPOLI. Senator Domenici, I believe we in the Department would fully endorse your statement. We realize this is, on the sur-

face might be a simple question, like does a utility contribute or not, and for how long? But we recognize that all—it's part of a much more complex overall issues, and that is why the Department would like to take the time to study the options, discuss the options with the stakeholders, prior to making a recommendation to the Congress, and that is why we've asked for a relatively short-term reauthorization to deposit to the fund, so the government can restore its share while we dialog on those other issues that are all interrelated.

Senator DOMENICI. I just wanted to say to the members, and put on the record before I yield back to the Chairman two things, very briefly.

You know, we've been using a formula for the low-level radiation—I think you're aware of the very big dispute that exists as to whether the formula that we've used in the past properly determines the negative effect of low-level radiation.

That's very important, what you use as the standard, because that determines how much it will cost to clean up. In some instances, when you're using the dosage concern that is out there, you spend great deals of money just moving earth around, just to make sure that you put enough on there, tons and tons, so that the low-level radiation is measured right at the surface.

I understand the Department, under a mandate from this committee from 3 or 4 years ago—5 years, 6 years, 7 years ago—is in the process of analyzing that standard, that has been in the law and very questioned by many. If that's solved, while you're busy doing this cleanup, it would cause a real change in the cost, as you well know. As it's doing for many sites.

I also note, with reference to the industry that in the bill that we passed—the Energy Policy Act in 1992, we indicated that the total contribution, or the collection of \$2.25 billion to be annually adjusted for inflation using the consumer price index, et cetera, was the amount that was to be paid in, and that was all. So we are taking a giant step if we decide that that's not right any longer and we've got to have more.

We've got to also know what we're doing, and I, for one, think that this is going to be a very big, long-term cleanup job. I would hope that if we're going to do this legislatively we do it in as simple a form as we can, using the intervening time to really push and insist that the plans be done in a most modern way, and that we understand what's going on. Otherwise, we'll end up with an open-ended obligation, where we'll be paying through the nose forever, if we're not careful. It will be much more expensive than it would have to be.

I have a number of questions; I'll submit them in writing. Answer them as soon as you can.

Thanks for the work you do. You've done a good job in a very tough office.

[The prepared statement of Senator Domenici follows:]

PREPARED STATEMENT OF HON. PETE V. DOMENICI, U.S. SENATOR FROM
NEW MEXICO

Good morning, and welcome to all of our witnesses. I am pleased that Senator Bingaman scheduled this hearing to examine the Uranium Enrichment D&D Fund and the possible need to reauthorize payments into the Fund. That said, we have

not had a hearing on this program since we created the Fund in the Energy Policy Act of 1992 fifteen years ago. We know very little about the operation of the Fund, the Department of Energy's use of the monies thus far, or their future cleanup plans. It is somewhat perplexing to me, then, why the Committee has rushed to a legislative hearing on S. 2203 that would simply increase annual deposits and extend the Fund for ten years. This seems premature, at best, to me.

There have been tremendous changes in the past fifteen years in all of the circumstances surrounding the former DOE enrichment enterprise, its utility customers, cleanup technologies and plans, and a host of other variables that I am sure will affect our decision on reauthorization and the details of any legislation. With this in mind, I intend to proceed very thoughtfully and carefully to examine all of the issues related to reauthorization of the Fund and the legislative options that might be available. Hopefully, today's hearing will be a good first step in that process.

I look forward to the witnesses' testimony.

Mr. RISPOLI. Thank you, Senator. Thank you very much.

Senator TESTER. Senator Bunning, did you have any further questions you wanted to ask?

Senator BUNNING. Not for this witness, for the next witnesses.

Senator TESTER. With that, thank you very much, Assistant Secretary, and we'll bring up the next panel.

The next panel consists of Robin Nazzaro, Director of Natural Resources and Environment, the Government Accountability Office.

Marv Fertel of the Nuclear Energy Institute here in Washington, D.C.

Wesley Warren, Natural Resources Defense Council, here in Washington, D.C.

John Longenecker, Longenecker and Associates, Las Vegas, Nevada.

Welcome, gentlemen.

Welcome, Robin, we're going to start with your testimony. I appreciate you all being here this morning. We will go with 5 minutes, if you can make your comments concise to 5 minutes, it would be much appreciated.

Go ahead, thank you.

STATEMENT OF ROBIN M. NAZZARO, DIRECTOR, NATIONAL RESOURCES AND ENVIRONMENT, GOVERNMENT ACCOUNTABILITY OFFICE

Ms. NAZZARO. Thank you, Mr. Chairman and members of the committee. I'm pleased to be here today to discuss the sufficiency of the Uranium Enrichment Decontamination and Decommissioning Fund.

As was discussed today, the Fund was established in 1992 as the government's principal source of funding for the decontamination and decommissioning of the Department of Energy's three uranium enrichment plants, located near Oak Ridge, Tennessee; Portsmouth, Ohio; and Paducah, Kentucky. The cleanup of these plants will cost billions of dollars and could span several decades. Fund revenues come from Federal Government appropriations and an assessment on domestic utilities which has been, for the past 15 years, and scheduled to end in 2007.

In 2004, we reported on the extent to which the Fund is sufficient to cover authorized activities. Because we found that the Fund would likely be insufficient, we recommended that Congress consider reauthorizing the Fund for three more years, to 2010, and

require DOE to assess the sufficiency of the Fund before it expired, to determine if extensions beyond 2010 would be necessary.

Additionally, to reduce uncertainty regarding the sufficiency of the Fund, we recommended that the Secretary of Energy develop decontamination and decommissioning plans for the Portsmouth and Paducah plants that would identify the most probable time frames and costs for completing the cleanup work.

My testimony today summarizes the findings from our 2004 report regarding the extent to which the Fund will be sufficient to cover authorized activities, and an update on DOE's progress in developing decontamination and decommissioning plans at the Portsmouth and Paducah plants.

In summary, the Fund will be insufficient to cover all of its authorized activities. Using DOE's estimates for the cleanup costs at the three plants, and current and likely revenue projections, GAO developed a number of simulation models that factored in annual cost and revenue projections, and uncertainties surrounding inflation rates, costs, revenues and the timing of the final cleanup work at the plants. Specifically, our baseline model showed that by 2044, which was the most likely timeframe for completing all cleanup activities at the plants, cleanup costs will have exceeded revenues by between \$3.8 billion to \$6.2 billion, in 2007 dollars.

Irrespective of which model we used, we found that the fund would be insufficient. Each of the alternative models, including accelerated time frames, deferred timeframes and baseline timeframes with additional revenues from government contributions as authorized under current law, demonstrated that the cleanup costs would exceed revenues.

Uncertainty over the extent of the Fund's sufficiency remains because DOE had at the time, not issued plans that identified the most probable timeframes and costs for the decontamination and decommissioning of the Portsmouth and Paducah plants. In 2004, DOE began developing a report to Congress containing such information, but because DOE was in the process of significantly revising its cost estimates, it determined the report would not be accurate, and it did not finalize it. According to DOE officials, the Department is now in the process of finalizing a report that contains new schedule and cost information for both plants and addresses the sufficiency of the Fund. However, DOE did not make that information available to GAO and, therefore, we are unable to assess how any new schedule or cost estimates may affect the Fund's sufficiency.

In closing, we believe that an extension to the Fund may be necessary to cover the cleanup costs at the Nation's three uranium enrichment plants. The information currently available on the projected costs and revenues authorized by the Fund suggest that the Fund will be insufficient by up to several billion dollars. DOE appears to be taking steps to develop more detailed timeframes and costs estimates for the decontamination and decommissioning of the uranium enrichment plants. In the meantime, unless the Fund is extended beyond its current expiration in 2007, cleanup activities could not be paid for from the Fund due to a shortfall may have to be financed entirely by the Federal Government and could

add an additional fiscal burden at a time when our government is already facing significant long-term fiscal challenges.

Mr. Chairman, this completes my prepared statement. I'd be happy to respond to any questions that you or members of the committee might have at this time.

[The prepared statement of Ms. Nazzaro follows:]

PREPARED STATEMENT OF ROBIN M. NAZZARO, DIRECTOR NATURAL RESOURCES AND ENVIRONMENT, GOVERNMENT ACCOUNTABILITY OFFICE

WHY GAO DID THIS STUDY

Cleaning up the nation's three uranium enrichment plants will cost billions of dollars and could span decades. These plants—located near Oak Ridge, Tenn.; Paducah, Ky.; and Portsmouth, Ohio—are contaminated with radioactive and hazardous materials. In 1992, the Energy Policy Act created the Uranium Enrichment Decontamination and Decommissioning Fund (Fund) to pay for plant cleanup. Fund revenues come from an assessment on domestic utilities and federal government appropriations.

In 2004, GAO reported on the Fund's sufficiency to cover authorized activities. GAO recommended that Congress consider reauthorizing the Fund for 3 more years, to 2010, and require the Department of Energy (DOE) to reassess the Fund's sufficiency before it expired to determine if further extensions were needed. Because decisions not yet made by DOE could affect the cost of cleanup and the Fund's sufficiency, GAO also recommended that DOE develop decontamination and decommissioning plans for the Paducah and Portsmouth plants that would identify the most probable time frames and costs for completing the cleanup work.

This testimony is based on GAO's 2004 report. It summarizes the extent to which the Fund may be sufficient to cover authorized activities and the status of DOE's progress in developing decontamination and decommissioning plans for the Paducah and Portsmouth plants.

WHAT GAO FOUND

GAO's analysis showed that the Fund will be insufficient to cover all authorized activities. Using DOE's estimates for the cleanup costs at the three plants and current and likely revenue projections, GAO developed a number of simulation models that factored in annual cost and revenue projections and uncertainties surrounding inflation rates, costs, revenues, and the timing of the final cleanup work at the Paducah and Portsmouth plants. Specifically, GAO's baseline model demonstrated that by 2044, the most likely date for completing all cleanup activities at the plants, cleanup costs will have exceeded revenues by \$3.8 billion to \$6.2 billion (in 2007 dollars). Importantly, GAO found that the Fund would be insufficient irrespective of which estimates were used or what time frames were assumed.

DOE has not yet issued plans for the decontamination and decommissioning of the Paducah and Portsmouth plants as GAO recommended. According to DOE officials, the department is developing a report to Congress that will contain updated information for both plants. DOE did not make that information available to GAO, however, and hence GAO was unable to assess how any new schedule or cost estimates may affect the Fund's sufficiency. Until DOE issues plans that provide the most probable time frames and costs for completing decontamination and decommissioning at the Paducah and Portsmouth plants, it is not possible to more precisely determine the total funding needed to cover the authorized cleanup activities.

Mr. Chairman and Members of the Committee: Thank you for the opportunity to discuss our work on the sufficiency of the Uranium Enrichment Decontamination and Decommissioning Fund (Fund) as you consider its reauthorization. As you know, the 1992 Energy Policy Act, as amended,¹ established the Fund and authorized contributions for 15 years (ending in 2007) to be made by federal government appropriations and payments from domestic utility companies. The Fund is the government's principal source of funding for the decontamination and decommissioning of the Department of Energy's (DOE) three uranium enrichment plants, located near Oak Ridge, Tennessee; Paducah, Kentucky; and Portsmouth, Ohio. These plants, which encompass more than 30 million square feet of floor space, miles of interconnecting pipes, and thousands of acres of land, are contaminated with radioactive and hazardous materials. The cleanup of these plants—the responsibility of DOE's

¹All further references to the Energy Policy Act refer to the Energy Policy Act, as amended.

Office of Environmental Management—will cost billions of dollars and could span several decades. Cleanup activities include assessing, treating, and disposing of the contamination found at the plants and the decontamination and decommissioning of inactive facilities. DOE conducts its cleanup activities under the requirements of several federal environmental laws and compliance agreements with relevant regulatory authorities, including the Environmental Protection Agency and state regulatory agencies.

In 2004, we reported on actions DOE had taken to reduce the cleanup costs the Fund is authorized to support and the extent to which the Fund is sufficient to cover authorized activities.² Because we found that the Fund would likely be insufficient, we recommended that Congress consider reauthorizing the Fund for an additional 3 years, to 2010, and require DOE to reassess the Fund's sufficiency before the 2007 expiration date to determine if extensions beyond 2010 would be needed. Additionally, to reduce uncertainty regarding the Fund's sufficiency, we recommended that the Secretary of Energy develop decontamination and decommissioning plans for the Paducah and Portsmouth plants that would identify the most probable time frames and costs for completing the cleanup work. My testimony today (1) includes findings from our 2004 report, which examined the extent to which the Fund was sufficient to Page 1GAO-08-277T cover authorized activities, and (2) provides an update on DOE's progress in developing decontamination and decommissioning plans at the Paducah and Portsmouth plants.

In preparing our 2004 report, we obtained DOE's estimates for cleanup and other key costs at the three plants, and current and likely revenue projections. We assessed the reliability of these data and determined that they were sufficiently reliable for the purposes of our report. We used the data to develop a number of simulation models, which factored in cost and revenue projections on an annual basis, as well as uncertainties surrounding inflation rates, interest rates, the costs and revenues, and the timing of the final decontamination and decommissioning work at the Paducah and Portsmouth plants. In addition, to prepare for this testimony, we reviewed DOE's status reports developed in response to our 2004 report and interviewed DOE headquarters officials to determine DOE's progress to date in developing decontamination and decommissioning plans at Paducah and Portsmouth. We performed our work in accordance with generally accepted government auditing standards.

In summary,

- The Fund will be insufficient to cover all of its authorized activities. Specifically, our baseline model showed that by 2044, the most likely date for completing all cleanup activities at the plants, cleanup costs will have exceeded revenues by \$3.8 billion to \$6.2 billion (in 2007 dollars). Irrespective of which model we used, we found that the Fund would be insufficient. Each of the alternative models—(1) accelerated time frames, (2) deferred time frames, and (3) baseline time frames with additional revenues from government contributions as authorized under current law—demonstrated that the cleanup costs would exceed revenues. We recommended that Congress consider reauthorizing the Fund for an additional 3 years, to 2010, and require DOE to reassess the Fund's sufficiency before the expiration date to determine if extensions beyond 2010 would be needed.
- DOE has not yet issued plans for the decontamination and decommissioning of the Paducah and Portsmouth plants as GAO recommended. According to DOE officials, the department is now in the process of finalizing a report that contains new schedule and cost information for both plants and addresses the sufficiency of the Fund. However, DOE did not make that information available to GAO and therefore, we were unable to assess how any new schedule or cost estimates may affect the Fund's sufficiency. Until DOE issues plans that provide the most probable time frames and costs for completing decontamination and decommissioning at the Paducah and Portsmouth plants, it is not possible to more precisely determine the total funding needed to cover the authorized cleanup activities.

BACKGROUND

The federal government has enriched uranium for use by commercial nuclear power plants and for defense-related purposes for more than 40 years at three plants, located near Oak Ridge, Tennessee; Paducah, Kentucky; and Portsmouth,

²GAO, Uranium Enrichment: Decontamination and Decommissioning Fund Is Insufficient to Cover Cleanup Costs, GAO-04-692 (Washington, D.C.: July 2, 2004).

Ohio (see fig. 1).^{*} The Oak Ridge plant, known as East Tennessee Technology Park, is located on 1,500 acres of land; the oldest of the three plants, it has not produced enriched uranium since 1985. The Paducah plant, located on about 3,500 acres, continues to enrich uranium for commercial nuclear power plants under a lease to a private company, the United States Enrichment Corporation (USEC). The Portsmouth plant, a 3,700-acre site, ceased enriching uranium in May 2001 because of reductions in the commercial market for enriched uranium. Later that year, the plant was placed on cold standby (an inactive status that maintains the plant in a usable condition), so that production at the facility could be restarted in the event of a significant disruption in the nation's supply of enriched uranium. USEC was awarded the contract to maintain the plant in cold standby, a condition that continues today.³ Yet because of newer, more efficient enrichment technologies and the globalization of the uranium enrichment market, all three uranium enrichment plants have become largely obsolete. Therefore, DOE now faces the task of decontaminating, decommissioning, and undertaking other remedial actions⁴ at these large and complex plants, which are contaminated with hazardous industrial, chemical, nuclear, and radiological materials.

In 1991, at the request of the House Subcommittee on Energy and Power, GAO analyzed the adequacy of a \$500 million annual deposit into a fund to pay for the cost of cleanup at DOE's three uranium enrichment plants.⁵ We reported that a \$500 million deposit indexed to inflation would likely be adequate, assuming that deposits would be made annually into the fund as long as cleanup costs were expected to be incurred, which, at the time of our study, was until 2040. Additionally, in a related report, we concluded that the decommissioning costs at the plants should be paid by the beneficiaries of the services provided by DOE—in this case, DOE's commercial and governmental customers.⁶

In 1992, the Congress passed the Energy Policy Act, which established the Uranium Enrichment Decontamination and Decommissioning Fund to pay for the costs of decontaminating and decommissioning the nation's three uranium enrichment plants. The Energy Policy Act also authorized the Fund to pay remedial action costs associated with the plants' operation, to the extent that funds were available, and to reimburse uranium and thorium licensees for the portion of their cleanup costs associated with the sale of these materials to the federal government. The act authorized the collection of revenues for 15 years, ending in 2007, to pay for the authorized cleanup costs. Revenues to the Fund are derived from (1) an assessment, of up to \$150 million annually, on domestic utilities that used the enriched uranium produced by DOE's plants for nuclear power generation⁷ and (2) federal government appropriations amounting to the difference between the authorized funding under the Energy Policy Act and the assessment on utilities.⁸ Congress specified that any unused balances in the Fund were to be invested in Treasury securities and any interest earned made available to pay for activities covered under the Fund.

DOE's Office of Environmental Management is responsible for managing the Fund and plant cleanup activities, which, through fiscal year 2003, were mostly carried out by DOE contractor Bechtel Jacobs. The department's Oak Ridge Operations Office in Oak Ridge, Tennessee, had historically provided day-to-day Fund management and oversight of cleanup activities at all three plants. In October 2003, however, DOE established a new office in Lexington, Kentucky, to directly manage the cleanup activities at the Paducah and Portsmouth plants. The Oak Ridge Operations Office continues to manage the Fund and the cleanup activities at the Oak Ridge plant.

Currently, the Fund is used to pay for the following activities:

- Reimbursements to uranium and thorium licensees. The Energy Policy Act provides that the Fund be used to reimburse licensees of active uranium and tho-

^{*}Graphic has been retained in committee files.

³USEC was also responsible for uranium enrichment before operations ceased and it has begun construction on a new centrifuge uranium enrichment plant at this site.

⁴Remedial actions refer to environmental cleanup activities directed at eliminating or reducing contaminant sources and contaminated soil and groundwater.

⁵GAO, Uranium Enrichment: Analysis of Decontamination and Decommissioning Scenarios, GAO/RCED-92-77BR (Washington, D.C.: Nov. 15, 1991).

⁶GAO, Comments on Proposed Legislation to Restructure DOE's Uranium Enrichment Program, GAO/T-RCED-92-14 (Washington, D.C.: Oct. 29, 1991).

⁷This assessment is based on a given utility's share of the total enriched uranium purchased from DOE, including enriched uranium purchased for defense purposes.

⁸The following revenue amounts are authorized: \$480 million for fiscal years 1992-1998; \$488.3 million for fiscal years 1999-2001; and \$518.2 million for fiscal years 2002-2007. Both domestic utility assessments and government appropriations are to be adjusted annually for increases in the consumer price index.

rium processing sites for the portion of their decontamination and decommissioning activities, reclamation efforts, and other cleanup costs attributable to the uranium and thorium they sold to the federal government.⁹ From fiscal year 1994, when the Fund began incurring costs, through fiscal year 2003, \$447 million was used from the Fund for uranium and thorium reimbursements (in 2004 dollars).

- Cleanup activities at the uranium enrichment plants.¹⁰ Cleanup activities at the plants include remedial actions, such as assessing and treating groundwater or soil contamination; waste management activities, such as disposing of contaminated materials; the surveillance and maintenance of the plants, such as providing security and making general repairs to keep the plants in a safe condition; the decontamination and decommissioning of inactive facilities by either cleaning them up so they can be reused or demolishing them; and other activities, such as covering litigation costs at the three plants and supporting site-specific advisory boards. From fiscal year 1994 through fiscal year 2003, a total of \$2.7 billion from the Fund was used for these cleanup activities (in 2004 dollars).

AT PROJECTED COSTS AND REVENUES, THE FUND WILL BE INSUFFICIENT TO COMPLETE CLEANUP AT THE THREE PLANTS

Under a variety of models using DOE's projected costs and revenues, the Fund will be insufficient to cover all of its authorized activities. Using DOE's projections that 2044 would be the most likely date for completion of cleanup at the plants, we estimated that cleanup costs would exceed Fund revenues by \$3.8 billion to \$6.2 billion (in 2007 dollars).¹¹ Because DOE had not determined when decontamination and decommissioning work would begin at the Paducah and Portsmouth plants, and because federal contributions to the Fund have been less than the authorized amount, we developed several alternative models to assess the effects of different assumptions on the Fund's sufficiency. Specifically, we developed the following models:

- Baseline model. This model was developed in consultation with DOE and its contractor officials about what the most likely cleanup time frames would be and used cost estimates assuming that cleanup at all plants would be completed by 2044.
- Accelerated model. Because DOE had not determined when the final decontamination and decommissioning would begin at its Paducah and Portsmouth plants, we developed the accelerated model under the assumption that cleanup work could be completed faster than under the baseline model, given unconstrained funding. DOE and its contractor officials provided additional cost estimates, where Paducah's final work would begin in 2010 and be completed by 2024 and Portsmouth's final decontamination and decommissioning work would begin in 2007 and be completed by 2024.
- Deferred model. This model was developed under the assumption that, given current funding constraints, it may not be realistic for two major decontamination and decommissioning projects to be done concurrently. Thus, deferred time frames were determined by DOE, assuming that all work would be completed at the Portsmouth plant first and then initiated at the Paducah plant. For the deferred model, Portsmouth's final decontamination and decommissioning work was estimated to be completed from 2010 to 2037 and Paducah's from 2038 to 2052.
- Revenue-added model. This model was developed to assess the effect of the government's meeting its total authorized annual contributions on the balance of the Fund, which by the start of fiscal year 2004, was \$707 million less than authorized under the Energy Policy Act. For the revenue-added model, we used baseline time frames but assumed that government contributions to the Fund

⁹The Energy Policy Act authorizes reimbursements to uranium licensees not to exceed \$350 million and reimbursements to the thorium licensee not to exceed \$365 million for the portion of their cleanup costs associated with the sale of these materials to the federal government. The remaining unused authorized amounts are adjusted annually based upon the consumer price index.

¹⁰Cleanup activities are conducted under the requirements of the Resource Conservation and Recovery Act of 1976, as amended (RCRA); the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended (CERCLA); and compliance agreements with regulatory authorities, which include the Environmental Protection Agency and state regulatory agencies in Kentucky, Ohio, and Tennessee.

¹¹In our 2004 report, we reported the projected costs in 2004 dollars. For this testimony, we converted the figures to 2007 dollars.

would continue annually at the 2004 authorized level until all government contributions as authorized by law had been met, which would occur in fiscal year 2009.

- Revenue-added-plus-interest model. For this model, we built on the revenue-added model to include the effect of forgone interest that the Fund could have earned had the government contributed the full authorized amount. We assumed that these additional payments would be made to the Fund in the same amounts as the 2004 annual authorized amount and extended payments through fiscal year 2010.

Irrespective of which model we used, we found that the Fund would be insufficient to cover the projected cleanup costs at the uranium enrichment plants (see table 1). At best, assuming no additional funding is provided beyond the 2007 authorized amount, Fund costs could outweigh revenues by \$3.8 billion (in 2007 dollars). Even with current authorized amounts extended out through fiscal year 2010, the Fund could still be insufficient by close to \$0.46 billion (in 2007 dollars).

TABLE 1: FUND BALANCE AT COMPLETION OF ALL CLEANUP UNDER DIFFERENT MODEL SCENARIOS

Dollars in Billions

Completion date (fiscal year)	Baseline model		Accelerated model		Deferred model		Revenue-added model		Revenue-added-plus-inter-est model	
	2044		2024		2052		2044		2044	
Constant 2007 dollars	-\$6.2 to -\$3.8 (-\$5.3)		-\$5.7 to -\$4.4 (-\$5.0)		-\$6.8 to -\$4.4 (-\$5.7)		-\$5.2 to -\$2.0 (-\$3.9)		-\$4.6 to -\$0.46 (-\$3.0)	
Current dollars	-\$18.5 to -\$7.6 (-\$12.5)		-\$9.8 to -\$5.7 (-\$7.6)		-\$26.4 to -\$8.8 (-\$16.7)		-\$15.1 to -\$4.3 (-\$9.3)		-\$13.3 to -\$1.0 (-\$7.1)	
Present-value 2007 dollars*	-\$3.4 to -\$0.84 (-\$1.9)		-\$4.2 to -\$2.0 (-\$3.0)		-\$3.4 to -\$0.69 (-\$1.6)		-\$2.8 to -\$0.69 (-\$1.4)		-\$2.5 to -\$0.098 (-\$1.1)	

Source: GAO analysis of DOE data.

Note: Fund balances given as range, with mean in parentheses.

* Because of the difference in completion dates, a comparison of the Fund balances in constant 2007 dollars would not be meaningful. To make comparison of the various models possible, we estimated the present value of the Fund's balance in 2007 dollars. Because present-value analysis reflects the time value of money—that costs are worth more if they are incurred sooner and worth less if they occur in the future—the present value under the deferral model declines more than in the other options. In reality, however, the net effect would depend on many other factors. If, for example, deferral would add substantially to such costs as safeguarding and security or costs associated with increased health risks, then the reduction due to adjusting for the time value of money could be more than offset by increases in other costs.

Although our analysis was able to capture several uncertainties potentially affecting the Fund—including interest rates, inflation rates, cost and revenue variances, and the timing of decontamination and decommissioning—additional uncertainties exist that we could not capture. These uncertainties included possible changes to the scope of the cleanup; whether the Fund would be required to pay for additional activities, such as long-term water monitoring once the plants were closed; and the extent of potential future litigation costs that the Fund would have to support. For example, a risk analysis completed by DOE in 2004 for the Paducah plant indicated that changes in the scope of cleanup could increase cleanup costs by more than \$3 billion and extend the time frame for cleanup to more than 30 years past the original scheduled date of 2019.¹² In addition, when they developed their cleanup cost estimates, DOE officials assumed that the costs of long-term stewardship activities—such as groundwater monitoring, which may continue after all necessary cleanup costs have been completed—would be covered by a separate funding source. DOE officials acknowledged, however, that if another funding source were not available, they may be required to use resources from the Fund.

UNCERTAINTY OVER THE EXTENT OF THE FUND'S INSUFFICIENCY REMAINS BECAUSE
DOE HAS YET TO ISSUE PLANS FOR THE PADUCAH AND PORTSMOUTH PLANTS

Uncertainty over the extent of the Fund's insufficiency remains because DOE has not issued plans that identify the most probable time frames and costs for the decontamination and decommissioning of the Paducah and Portsmouth plants. DOE was required to develop a report to Congress containing such information, but because DOE was significantly revising its cost estimates, it determined the report would not be accurate and did not finalize it.¹³ According to DOE officials, it is now in the process of finalizing a report that contains new schedule and cost information for both plants and addresses the sufficiency of the Fund.¹⁴ This report was due to Congress in October 2007 but has yet to be issued by DOE. Because the report has not been finalized, DOE officials were unwilling to provide us with updated information on current schedule and cost estimates. As a result, we are unable to assess how any new information may affect the Fund's sufficiency. Until DOE resolves uncertainties surrounding the plants' cleanup, including when cleanup activities are expected to both begin and end, it is not possible to more precisely determine the total funding needed to cover the authorized cleanup activities. If, however, closure and cleanup time frames extend past the originally projected schedules at the plants, then the total costs the Fund is authorized to support may increase, particularly costs for maintenance, safety, and security activities and other fixed costs that must be maintained until cleanup work at the plants is complete.

In closing, we believe that an extension to the Fund may be necessary to cover cleanup costs at the nation's three uranium enrichment plants. The information currently available on the projected costs and revenues authorized by the Fund suggests that it may be insufficient by up to several billion dollars. DOE appears to be taking steps to develop new, detailed time frames and cost estimates for the decontamination and decommissioning of its uranium enrichment plants. However, until this detailed information is made available, we cannot assess how DOE's updated time frames and cost estimates may affect the Fund's sufficiency. As a result, we believe that DOE should finalize plans for the Paducah and Portsmouth plants so that it can better determine the extent to which Fund extensions may be needed. Unless the Fund is extended beyond its current expiration in 2007, cleanup activities that could not be paid for from the Fund because of a shortfall may have to be financed entirely by the federal government and could add an additional fiscal burden at a time when our government is facing already significant long-term fiscal challenges.

Mr. Chairman, this completes my prepared statement. I would be happy to respond to any questions you or other Members of the Committee may have at this time.

Senator TESTER. Thank you, Robin. I'm sure there will be questions, we're going to go through all of the witnesses and then we'll come back.

¹²This end date does not include final decontamination and decommissioning of the plant but only the major remedial actions planned at the site.

¹³According to the Energy Policy Act, the Secretary of DOE shall provide a report to Congress at least once every 3 years on progress made under title XI of the act.

¹⁴According to the Energy Policy Act, the fifth report to Congress was to contain recommendations by the Secretary for the reauthorization of the program and Fund under title XI.

Marv Fertel. Thank you for being here.

**STATEMENT OF MARVIN S. FERTEL, SENIOR VICE PRESIDENT
AND CHIEF NUCLEAR OFFICER, NUCLEAR ENERGY INSTITUTE**

Mr. FERTEL. Thank you very much, Mr. Chairman, Senator Domenici, Senator Bunning.

As you know, NEI represents all of the nuclear generating companies that have already paid almost \$2.7 billion into the D&D fund for the GDPs, and could be subject to additional liabilities under S. 2203.

The industry fully supports the need to assure that the decontamination and decommissioning of the GDPs is accomplished in a safe, environmentally responsible and economically efficient manner. The communities that host these facilities should expect nothing less from the Federal Government.

This industry position is totally consistent with the responsibility each operator of a commercially licensed power plant or fuels facility has for providing adequate assurance for the protection of the health and safety of the public surrounding those facilities during operation, and for safely and responsibly decommissioning the commercial facilities once they stop operating.

In this regard, nuclear energy is unique as a source of electricity generation, in that it internalizes all of its costs in the price of electricity. Nuclear reactors and fuel facilities must provide dedicated decontamination and decommissioning funds as part of the terms at licensing. Nuclear generation pays for its regulation through licensing fees, and pays for waste disposal through the fee to the U.S. Department of Energy. No other energy source provides this explicit cradle-to-grave, full cost accounting.

From the first days of commercial nuclear generation through the mid-1980s, the U.S. Government was the sole source of enrichment services available to domestic utilities. The enrichment was provided by the three federally built, owned and operated gaseous diffusion plants, which were originally built to provide uranium enrichment for the government defense programs.

These facilities were contaminated as a result of their use for Defense programs about 15 years prior to the provision of any services to the commercial sector.

As such, the D&D burden would have been the same for the government if the facilities would never used to service the commercial sector.

Also, the contract signed by electric utilities with the Federal Government for the enrichment services provided by the GDPs, were required, by law, to include all costs which should have included any perceived additional D&D costs.

Given the above facts, the industry would have expected it had no future liability for the D&D of the GDPs. The Energy Policy Act of 1992 created the Uranium Enrichment and Decontamination and Decommissioning Fund. The D&D Fund supports cleanup of the three gaseous diffusion plants.

In the interests of moving forward with the restructuring of the enrichment enterprise, the commercial industry—working through ANEC and the Edison Electric Institute, agreed to a compromise in the EPACTS that resulted in a special assessment of \$2.25 bil-

lion, based on pre-1992 purchases of enrichment services by utilities.

The DOE had, in fact, estimated that the appropriate share of fee utilities was only \$1.6 billion. The industry agreed to the higher amount, in return for a cap and a total amount to be paid, and a provision that the fees could be included in the nuclear fuel charges.

Beginning in Fiscal Year 1993, domestic utilities were assessed up to \$150 million per year, adjusted for inflation. As of October 24 of this year, the utilities have completed their contribution to the Fund. The remainder of the annual deposit was to have come from the Federal Government appropriations, however, based on a report I saw last night, the government still owes about \$1.6 billion.

The industry is fully supportive of Congress taking appropriate actions to assure that adequate funding is available for the safe and environmentally responsible D&D of the government-owned GDPs. In this regard, the industry recommends that as you systematically discuss S. 2203, you consider modifying it, as follows.

One, extend the collection of D&D Fund contributions from the Federal Government to require it to immediately contribute the \$1.6 billion that is in arrears for the period 1992 through 2007.

Two, extend the collection of D&D Fund contributions from the Federal Government prospectively, to ensure adequate funding of the D&D Fund.

Three, prohibit the use of D&D Fund contributions for use in addressing cleanup requirements created by ongoing operations of the GDPs.

Four, eliminate the reinstatement of the D&D Fund on nuclear generators, since they should have no residual liability or obligation for the D&D, going forward.

Five, instruct the DOE to conduct a study on the most effective and responsible way to sell future, U.S. Government surplus, highly enriched uranium into the commercial market.

Six, require the DOE to sell its existing supply of surplus nuclear fuel into the commercial market in a responsible way.

Seven, instruct the DOE to enter into contracts for the re-enrichment of depleted uranium tails, and to sell the resulting uranium into the commercial market in a responsible way, and finally, grant DOE receipt authority for the sale of the surplus nuclear fuels into the market, and use the receipts for first, payment to re-enrich depleted tails and deal with that waste, two, provided contributions to the GDP D&D fund, if required, to make up any deficit, and three, be available for use in other DOE priority programs.

Also, we encourage the DOE to pursue commercial proposals for the D&D that provide innovative and risk-sharing from imminently qualified organizations.

Finally, we commend this committee for its active interest in pursuing effective D&D of the GDPs, and encourage the committee to provide robust oversight to the overall situation, including the use of a D&D Fund, the disposition of the surplus government inventories, and the actual activities to D&D the GDPs.

Thank you, and I'd be glad to answer any questions.

[The prepared statement of Mr. Fertel follows:]

PREPARED STATEMENT OF MARVIN S. FERTEL, SENIOR VICE PRESIDENT AND CHIEF
NUCLEAR OFFICER, NUCLEAR ENERGY INSTITUTE

The Nuclear Energy Institute (NEI), on behalf of the nuclear energy industry, appreciates the opportunity to provide this testimony for the record regarding the Uranium Enrichment Decontamination and Decommissioning Fund and on Senate Bill S. 2203, a bill to reauthorize the Uranium Enrichment Decontamination and Decommissioning Fund.

NEI is the organization responsible for establishing unified nuclear industry policy on matters affecting the nuclear energy industry, including the regulatory aspects of generic operational and technical issues. NEI's members include all utilities licensed to operate commercial nuclear power plants in the United States, nuclear plants designers, major architect/engineering firms, fuel fabrication facilities, materials licensees, and other organizations and individuals involved in the nuclear energy industry. NEI's members are the commercial entities that have paid into the D&D fund since 1993.

Nuclear energy currently supplies twenty percent of our nation's electricity supply, and is America's largest source of clean-air, carbon-free electricity, producing no greenhouse gases or other air pollutants. Nuclear energy accounts for 71 percent of the nation's clean-air electricity generation. In 2006, U.S. nuclear plants prevented the discharge of 681 million metric tons of carbon dioxide into the atmosphere. This is nearly as much carbon dioxide as is released from all U.S. passenger cars. The industry is committed to maintaining the benefits of nuclear energy to benefit the United States and the world.

Because of the growing need for additional baseload electricity in the United States, nuclear generating companies are currently planning to submit license applications for potentially 31 new plants that could be built in the 2015-2020 time period. Also, one new centrifuge enrichment facility is being built in New Mexico, and at least three other advanced enrichment technology facilities are being considered for deployment in the United States. The deployment of new advanced technology enrichment facilities in the United States will both enhance our energy security and increase the likelihood that the existing gaseous diffusion plants (GDP) will be retired and decommissioned.

The industry is committed to continuing to be a major contributor to meeting both the nation's electricity demand and its environmental goals. In this regard, the industry fully supports the need to assure that the decontamination and decommissioning of the GDP's is accomplished in a safe, environmentally responsible and economically efficient manner. The communities that host these facilities should expect nothing less from the federal government. The industry position is totally consistent with the responsibility each operator of a commercially licensed power plant or fuels facility has for providing adequate assurance of the protection of the health and safety of the public surrounding these facilities during operation and for safely and responsibly decommissioning the commercial facilities once they stop operating. In this regard, nuclear energy is unique as a source of electricity generation in that it internalizes all of its costs in the price of electricity. Nuclear reactor facilities and fuel facilities must provide dedicated decontamination and decommissioning funds as part of the terms of licensing. Nuclear generation pays for its regulation through licensing fees, and pays for waste disposal through the fee to the U.S. Department of Energy. No other energy source provides this explicit, cradle-to-grave full cost accounting.

From the first days of commercial nuclear generation through the mid 1980s, the U.S. government was the sole source of enrichment services available to domestic utilities that operated nuclear power plants. Enrichment services were sold to utilities by the U.S. government under long-term, cost recovery contracts. The enrichment was provided by the three federally built, owned and operated gaseous diffusion plants (Oak Ridge, TN; Paducah, KY; Portsmouth, OH), the same plants that were created to and did provide uranium enrichment for the Government's post-WWII defense programs. These facilities were contaminated as a result of their use for defense programs about 15 years prior to the provision of any services to the commercial sector. As such, the D&D burden would have been the same for the government if the facilities were never used to service the commercial sector. Furthermore, the contracts signed by electric utilities with the federal government for the enrichment services provided by the GDP's were required by law to include all costs, which should have included any perceived additional D&D cost. Given the above facts, the industry would have expected it has no future liability for the D&D of the GDP's.

When the Congress decided to privatize the enrichment enterprise in the 1990s, the privatized company was not held responsible for decontamination and decom-

missioning needed as a result of activities that took place before privatization. That would remain the responsibility of the U.S. government. The government then decided that the utilities that had purchased enrichment services from DOE or its predecessors should be required to contribute to the clean-up, even though they should not have had any residual liability for the D&D.

The Energy Policy Act of 1992 created the Uranium Enrichment Decontamination & Decommissioning Fund (D&D Fund). The D&D Fund, managed by DOE, supports clean-up at the three government-owned gaseous diffusion plants. The D&D Fund also supports a reimbursement program for clean-up of uranium and thorium processing sites that sold their products to the US government. The utilities maintained that the prices paid for enrichment services prior to privatization of the government's enrichment services had taken the cost of D&D into account, so the assessment in the EPACT was not justified. Further, the enrichment facilities were created for national security purposes and would have required D&D regardless of whether any enrichment was sold for civilian use. In the interest of moving forward with the restructuring of the enrichment enterprise, the commercial industry, working through the American Nuclear Energy Council and the Edison Electric Institute, ultimately agreed to a compromise in the EPACT that resulted in a special assessment of \$2.25 billion based on pre-1992 purchases of U.S. government enrichment services by domestic utilities. The DOE had in fact estimated that an appropriate share for the utilities was \$1.6 billion. The industry agreed to the higher amount in return for a cap on the total amount to be paid and a provision that the charges could be included in the nuclear fuel charges.

Beginning in Fiscal Year 1993, domestic utilities were assessed up to \$150 million per year, adjusted for inflation, for 15 years based on their historic purchases of uranium enrichment services from the federal government, prior to the privatization of the enrichment enterprise. The EPACT language specifically provided for termination of the assessment against utilities after the earlier of 1) 15 years after October 24, 1992 or 2) the collection of \$2,250,000,000 adjusted for inflation. Currently, based on an industry estimate, the fund has accumulated over \$2.5 billion from the industry and the 15 year time period has expired on October 24, 2007. Therefore, the utilities have completed their contribution to the Fund, as specified by the law. The remainder of the annual deposit was to come from federal government appropriations. However, based on the best information available, the government still has not provided its full share.

Turning now specifically to S.2203, the "Uranium Enrichment Decontamination and Decommissioning Fund Reauthorization Act of 2007." The industry is fully supportive of Congress taking appropriate action to assure that adequate funding is available for the safe and environmentally responsible D&D of the government owned GDP's. In this regard, the industry recommends that S.2203 be modified as follows:

- (1) Extend the collection of D&D fund contributions from the federal government to require it to immediately contribute all money that is in arrears for the period 1992-2007.
- (2) Extend the collection of D&D fund contributions from the federal government prospectively to ensure adequate funding of the D&D fund.
- (3) Prohibit the use of D&D fund contributions for use in addressing cleanup requirements created by ongoing operations of the GDP's.
- (4) Eliminate the reinstatement of the D&D fee on nuclear generators, since they should have no residual liability or obligation for the D&D.
- (5) Instruct the DOE to conduct a study on the most effective way to sell future U.S. government surplus highly enriched uranium (HEU) into the commercial market in the future, particularly given the end of the U.S.-Russian HEU Agreement in 2013.
- (6) Require the DOE to sell its existing supply of surplus nuclear fuel into the commercial market in a responsible way.
- (7) Instruct the DOE to enter into contracts for the re-enrichment of depleted uranium tails and to sell the resulting uranium into the commercial market in a responsible way.
- (8) Grant DOE receipt authority for the sale of surplus nuclear fuel into the commercial market and use the receipts for: (1) payment to re-enrich depleted uranium tails; (2) contributions to the GDP-D&D fund, if required to make up deficits; and (3) if available for use on DOE priority programs.

With respect to the sale of uranium that could be generated by re-enrichment of the substantial quantities of depleted uranium now stored at DOE sites, this approach is most effective if implemented in the near term rather than being studied for a year. Currently, the nuclear energy industry is expanding throughout the

world and several applications for new nuclear plants have been submitted to the U.S. Nuclear Regulatory Commission. This resurgence of interest in nuclear power combined with the draw down on nuclear fuel inventory has resulted in considerable tightening of the nuclear fuel market. This has been most notably in the uranium market. Pursuing this activity in the near-term would both address the issue of disposing of the existing tails, by turning them into an asset, and would also allow the government to sell them into a market that is seeing its highest prices in decades.

Another significant consideration should be to ensure the effective and responsible management of the D&D efforts. Money in the D&D fund should be designated for D&D efforts only, and should not be available for diversion to unrelated projects. The D&D of the gaseous diffusion plants will be ongoing for several decades and the Fund has the potential for considerable interest earnings if it is appropriately set aside. Currently, our understanding is, the fund is being accessed for remediation of events which occur during the existing operation. The rationale is that the spills would need to be remediated during the decommissioning phase. Events which occur during current operations should be remediated out of current operating funds. Additionally, areas which are remediated through the use of the funds should then be excluded from any additional radioactive material involvement. If this is not the case the area will be recontaminated and require additional draw down of the fund to remediate again. Also, we encourage the DOE to pursue commercial proposals for the D&D that provide innovative and risk-sharing approaches, from imminently qualified organizations.

Finally, we commend this Committee for its active interest in pursuing effective D&D of the GDP's and encourage the Committee to provide robust oversight to the overall situation, including the use of the D&D funds, the disposition of surplus government inventories and the actual activities to D&D the GDP's.

NEI appreciates the opportunity to address the subcommittee and would be happy to answer any questions you may have.

Senator TESTER. Thank you very much, Mr. Fertel.
Mr. Warren.

**STATEMENT OF WESLEY P. WARREN, DIRECTOR OF
PROGRAMS, NATURAL RESOURCES DEFENSE COUNCIL**

Mr. WARREN. Thank you, Senator Tester. I would like to thank the entire committee for the opportunity to testify today, including Senators Domenici, and Senator Bunning.

My name is Wesley Warren, I'm Director of Programs for the Natural Resources Defense Council, an environmental advocacy group. I've worked in Washington for about 23 years on environmental and energy issues, and I'm a former Associate Director for the Office of Management and Budget.

I read with great interest the DOE report that just came out, and I think that that really could be the focus of much of our attention today at this hearing.

In fact, it supersedes a lot of the preliminary analysis that we had in my testimony, so I would really like to address my oral comments on what the implications of the DOE report are.

I think there's three main implications. One, the DOE report acknowledges that cleaning up these facilities is a serious problem that needs to be addressed, and it's something that the communities and the workers at these facilities deserve.

Two, that the 15-year program that was authorized in Energy Policy Act in 1992 had been very successful at starting to address these needs, especially the work that's been done at the Oak Ridge facility. That a key part to the success, including bringing the overall cost estimates down, is the substantial money that's being provided, and the stable source of money, including the distribution of the cost between the beneficiaries of the program in the past, the government and the utilities.

But third of all, the report indicates that much still needs to be done. The base case acknowledges an \$11 billion shortfall, assuming the government makes up its missing contribution, which is—and without that, the fund essentially goes bankrupt in the year 2020, which will be here before the 15-year program period of time, that previously the program has been underway. So, it's going to be here before you know it.

Where will that money come from? I think that's the big question. The Department of Energy does not have a proposal for making up that shortfall—what does that mean? At Oak Ridge are we going to cut research programs to pay for cleanup programs? Are we going to cut other DOE laboratory work to pay for cleanup at Portsmouth? Are we going to reduce DOE defense activities to pay for cleanup at Paducah?

These are very hard choices, and really is where, I think, the legislation that we're looking at today, S. 2203, comes in. Because it offers a 10-year plan to answer that question, and where do we come up with the money, substantial, stable source of revenue.

The legislation authorizes \$700 million a year for 10 years, that's indexed to inflation, as the program has been in the past. Leaving inflation out, that's \$7 million right there. That takes out a big chunk of the missing amount of money, when you add interest that the Fund might be generating during that period of time, it could make up the entire shortfall.

But, the key is it's an opportunity for the committee, in passing this legislation to really address most of the serious, remaining, outstanding shortfall.

An additional point I would make about the legislation, is that it continues this very successful philosophy that was embodied in the 1992 Act, which is that the beneficiaries of the program in the past, should be the one to share the contributions to the Fund. That contribution has been basically on a two-to-one ration—that the government got about two-thirds of the benefits of the program, in terms of the enrichment services, private sector got about a third, that was the ratio in the Act, and the legislation would continue that ratio going forward. We think that this is very fair where the taxpayer is concerned.

The previous witness, by the way, mentioned an estimate that the Department of Energy had of \$1.6 billion in terms of their original obligation. I would like to say that that estimate was based on a DOE study from 1987, that said the cost of cleanup was only going to be \$3 billion, and that it should be split 50/50.

We now know the cost is going to be much more. We're, in this legislation, only endorsing a two-to-one ratio, and believe that it's an important principle to embrace.

The last thing that I would mention that's in the legislation is a study about depleted tails, which are an asset that the government has, with rising uranium prices, that they could, perhaps, auction off to the private sector, and realize some revenue toward this program.

If they do, we have two important points that we would emphasize. One, that's a government asset, any proceeds that are realized should go for the government's contribution, including any missing past payments—not for the utility's share of the contribution,

which we think they should be making—and finally, that the government should not be drawn back into the uranium enrichment business, which they got out of in 1992.

Thank you very much, I'd be willing to answer any questions.
[The prepared statement of Mr. Warren follows:]

PREPARED STATEMENT OF WESLEY P. WARREN, DIRECTOR OF PROGRAMS, NATURAL RESOURCES DEFENSE COUNCIL

Good morning Mr. Chairman and Members of the Committee. My name is Wesley Warren and I am the Director of Programs for the Natural Resources Defense Council (NRDC). NRDC is a not-for-profit environmental advocacy organization with over 1 million members and activists whose mission is to safeguard the Earth: its people, its plants and animals and the natural systems on which all life depends. Before joining NRDC, I served as Associate Director for Natural Resources, Energy and Science at the Office of Management and Budget and the Chief of Staff for the Council on Environmental Quality in the White House. I thank the Committee for inviting me to testify today and I am here in support of Senator Sherrod Brown's bill, S. 2203, to reauthorize the Uranium Enrichment Decontamination and Decommissioning Fund.

S. 2203 solves an important problem in a direct and equitable fashion. The legal authority for the Uranium Enrichment Decommissioning and Decontamination Fund (D&D Fund) of the Department of Energy (DOE), established in the Energy Policy Act of 1992 (hereafter EPACT), expires this year and needs to be extended. This extension should apply both to the authorization to spend money to cleanup contaminated nuclear sites and to the authority to collect contributions from the beneficiaries of the program. S. 2203 performs this task in the simplest fashion possible, by extending the framework of the current program for ten additional years. We urge your support for this important bill.

BACKGROUND

The nuclear weapons program of the DOE has supported the military forces of the federal government by producing nuclear material for warheads and reactor fuel for the navy. Even before DOE—and its predecessor, the Atomic Energy Commission—were created, the government for decades has relied on nuclear materials produced from the mining, milling and processing of raw uranium at numerous sites across the country, and enriched into a usable form at special government plants. Starting in 1964 the government's three uranium enrichment plants (located at Oak Ridge, Tennessee; Paducah, Kentucky; and Portsmouth, Ohio) were put into service enriching uranium for commercial reactor fuel at electric utility power plants, subject to a legal requirement that the utilities pay the full costs of operating the plants to provide that service (section 161v of the Atomic Energy Act).

This arrangement was highly beneficial to the electric utility industry, which was spared the cost of financing, building, and operating a completely new enrichment plant, including paying all the costs of the eventual cleanup of the plant. However, during the decades that this arrangement was in effect and despite the full cost recovery requirement in law, no money was set aside by the nuclear utilities to pay their fair share of the cost of decommissioning and decontaminating the existing three enrichment plants. This situation left the taxpayer facing a cleanup effort that was expected to take decades to complete and cost billions of dollars.

EPACT rectified this situation by creating a Decommissioning and Decontamination (D&D) Fund that would cleanup old uranium and thorium mill tailings sites and the three DOE enrichment plants. The design of the D&D Fund and the contributions to it was based on three general principles:

- The amount of money going into the Fund should be sufficient to achieve its environmental purpose of cleaning up the contamination at these facilities;
- The taxpayer should not have to pick up all the costs of cleanup, rather, the costs should be split with the other beneficiaries of the program and allocated according to the benefits received; and
- The activities at the three uranium enrichment plants should contribute to the well-being of the local communities, including jobs from the cleanup efforts.

The cleanup work at the uranium enrichment facilities is far from concluded and adherence to these principles is just as necessary and relevant today as it was when the Fund was created. In a timely fashion, S. 2203 addresses the looming shortfall discussed below.

SUFFICIENCY OF FUNDING

In an attempt to help evaluate and contain the eventual cost of enrichment plant cleanup, the 1992 EPACT mandated a report by the National Academy of Science, which was completed in 1996. This study made 13 major recommendations for reducing cost, which the DOE has generally followed, according to the non-partisan General Accounting Office (GAO) in a 2004 review of the program. Estimates in this testimony are largely based on NRDC's calculations derived from information in this GAO report.

However, the GAO also concluded that, if the authority to collect revenue expires in 2007, then the contributions to the Fund will fall short of the amount necessary to finish cleanup activities. More specifically GAO's baseline model determined that the Fund would have sufficient revenue to reimburse uranium and thorium licensees for cleanup at processing sites, but that it would fall short of completing work at the three enrichment plants by up to \$5.7 billion in 2004 dollars—which would be about \$6.5 billion in 2008 dollars. GAO also projects cleanup activities would need to continue at least through 2044.

Furthermore, GAO acknowledges that the upper end of this estimate could be too low, contingent on the additional cleanup activities that may need to be performed, such as long-term groundwater monitoring—work that could add another estimated \$3 billion in costs to the project. Indeed, DOE currently lacks comprehensive long-term cleanup plans and appropriate cleanup standards for the Paducah and Portsmouth plants, and both sites will require long-term stewardship.

We note for the Committee that the D&D Fund has an existing projected balance of \$4.4 billion for the end of FY 2007, according to the Office of Management and Budget (OMB). However, this net balance is not available to offset the \$6.5 billion shortfall, since GAO has already assumed that the net balance in the Fund will be used to help pay for cleanup, so the shortfall that needs to be made up is in addition to the existing Fund balance.

TAXPAYER EQUITY

EPACT provided that both the taxpayers and the utilities that benefited from the program would make contributions to the cleanup fund, and that those contributions would be allocated in proportion to the benefits each had received from the program. Benefits are calculated based on a standard unit used to measure enrichment services called a Separative Work Unit (SWU). GAO has also historically endorsed this principle of "beneficiary pays" for revenue collection under the program and in its recent July 2004 report. Section 2 of S. 2203 continues the status quo of this equitable agreement and ensures that the states of Ohio, Tennessee, and Kentucky avoid a serious problem.

Using the original EPACT formula, the overall cap on revenue was set at \$480 million a year, indexed to inflation, with a subcap on utility contributions of \$150 million (31.4% of the total), a figure also indexed to inflation. Taxpayers paid the difference (68.6%) to cover services received by the government and by foreign utilities for which there was no certain mechanism by which fees could be collected. The utility sector portion was further prorated among individual utilities in proportion to the amount of SWU that had been contained in fuel shipments that they had received from DOE in the past.

Since the original passage of the Act, Congress has twice raised the overall funding cap somewhat (mainly to authorize additional appropriations for a thorium site) while leaving the utility contribution the same, potentially shifting more of the relative cost of the program to the taxpayer. However, analysis by NRDC indicates that actual payments to the Fund have closely approximated the original ratio set out in EPACT based on SWU benefits. In the 15-year period from FY 1993 to FY 2007, taxpayers seem to have contributed about \$5.27 billion (66.4%) compared to the nuclear utility contribution of \$2.66 billion (33.6%), based on an examination of annual budget documents from OMB.

If, as we urge, Congress passes and the President signs S. 2203, then the current status quo and an equitable management of long-term cleanup liabilities will continue. In short, if S. 2203 is adopted into law, both the taxpayer and the utility contribution, indexed to inflation, will extend for ten years and the overall cap on revenue will be set in proportion to the original benefits-based ratio contained in EPACT. Following the formula set out in EPACT, S. 2203 sets the overall authorization cap on contributions to the Fund in FY 2008 at about \$700 million, with the utility contribution set at \$220 million. As has been done in the past, S. 2203 directs that both caps be indexed to inflation.

WELL-BEING OF THE COMMUNITIES

Title X of the 1992 EPACT was meant to help serve the interests of the local communities affected by mill tailings sites and enrichment plants in several ways, and Section 2 and Section 3 of S. 2203 continues that work. For all of the affected communities there was a concern that greater certainty be brought to the process for cleaning up contaminated materials. In addition to the potential public health and environmental benefits of greater certainty, there are also technical and economic benefits to having a sure and predictable way of maintaining a trained and experience workforce in cleanup operations.

Section 2 of S. 2203 ensures both sufficiency and certainty in future funding by extending revenue contributions to the D&D Fund for 10 years. In 2004 GAO recommended a three-year extension in the program while DOE considered longer-term issues. However, that period of time has passed and the authority for the entire cleanup expires this year. S. 2203 addresses the issue of funding sufficiency by providing enough time to ensure the collection of sufficient revenues to pay for the projected shortfall.¹ Meanwhile, S. 2203 presumes vigorous ongoing oversight to DOE's cleanup activities at these sites.

In continuing the original framework of the EPACT D&D program, S. 2203 serves the parallel interest Congress had in reforming the longstanding DOE program that provided uranium enrichment services to the private sector. For decades, in addition to failing to collect money to pay for cleanup costs, DOE had undercharged nuclear utilities billions of dollars for the enrichment services that it provided to them, with some of the past GAO estimates of the unrecovered costs running between \$3 billion and \$11 billion. At the same time growing international competition in the uranium enrichment market had limited the ability of DOE to hike its charges to collect these past debts. To help address these matters, EPACT authorized the eventual privatization of the DOE program into the United States Enrichment Corporation (USEC).

Importantly, I would like to raise one final issue concerning S. 2203 and the potential impact of the cleanup fee on nuclear utilities and their decisions regarding whether to purchase enrichment services from USEC in the future. Since the fee is based on historical purchases prior to October 24, 1992, there would be no additional fee payments associated with present or future utility purchases of enrichment services from USEC or any other source. Therefore, the extension of the special assessment should have no impact on trade balances or future utility decision-making about the use of nuclear power.

And last, Section 3 of S. 2203 directs the DOE, not later than 1 year after enactment, to complete a study for the use of proceeds from the sale of the product of enriching uranium tailings. This sensible provision, which we support, provides both the Administration and the Congress an opportunity to assess whether additional enrichment of uranium tailings may be used to supplement the taxpayer contribution to the cleanup fund and to provide assistance to local government and community reuse organizations. We also believe any final decision to sell off this government asset: (1) should use the proceeds to help pay for obligations that would otherwise be borne by taxpayers and not to relieve the industry of its contribution to cleanup; (2) should not draw the government back into the uranium enrichment business but should leave those activities to the private sector; and (3) should comply with all environmental laws, including the National Environmental policy Act.

RESPONSE TO CONCERNS OF THE NUCLEAR INDUSTRY

At the present time and in the past, nuclear utilities have opposed paying into the cleanup fund a special assessment based on the concept of "beneficiaries pay." They have generally offered two objections—in their view the fee costs them too much and they have already paid their share. However, both of these arguments are flawed and so I will briefly examine each in turn to explain.

First, the special assessment is a minor expense to the utility industry but makes a major contribution to the DOE cleanup fund. For the past 15 years, the special assessment has provided nearly a third of the cleanup expenses of the D&D Fund, helping to ensure the program's solvency and the adequacy of environmental cleanup. Without this stream of revenue the overall success of the program, which until now has run fairly smoothly, would be brought seriously into doubt.

By contrast the size of the contribution from utilities to the Fund is so small in comparison to their annual revenue that it is almost difficult to calculate precisely

¹The sufficiency of Section 2 of S. 2203 can be calculated by dividing the \$6.5 billion estimated shortfall by the proposed \$700 million a year in collections for a total period of 9.3 years, rounded up to an even 10 years for the reauthorization period.

what it equals. In 2005 (the last year for which there are consistent data for these calculations) total utility revenue was \$298 billion, of which the special assessment was less than seven-tenths of one percent of the total. Another way to think about this is to consider the overall increase in residential electricity prices including inflation in the 15 years between 1991 and 2006. That increase was 29.35% including the special assessment; but an almost indistinguishable 29.29% without it. Finally, one could consider that the amount of the fee paid monthly by the average residential customer is just over a nickel (5.6 cents), or less than the cost of a stamp for the average household.

Second, the special assessment is a fair share for the utilities to pay and is fair to the taxpayer too. The special assessment is allocated based on the relative proportion of enrichment services received by the two main beneficiaries of the program, nuclear utilities and the government. Utilities have argued in the past that they should have to pay little or nothing to this program because the plants were already contaminated by defense use before they started receiving services, and so they should only have to pay at most incremental expenses. However, this position is contrary to the history of the program and a basic sense of fairness to those taxpayers who did not benefit from the nuclear power that was produced in the past.

During the 1960s when the government made fuel services available to electric utilities the question was raised about what to charge for enrichment services and how to treat the fixed overhead costs of the plants that were already built. The decision was made then that utilities should not only pay for the variable costs of providing those services but also a share of the fixed costs, such as plant depreciation. This policy position was embodied in the famed "Conway" formula, and was adopted by the Atomic Energy Commission and supported by Congress in part because of a desire even then to pave the way for privatizing these plants by charging full production prices for their services.

After it was realized that DOE had failed to collect sufficient revenue to pay for the cost of cleanup of the enrichment plants, Congress made the decision then in EPACT to allocate the costs in proportion to the services provided to these two sets of beneficiaries. DOE testified in 1991 in support of the principle that the costs of cleanup should be divided between government and civilian beneficiaries based on past purchases of SWU. The next year, the first proposal for a fee on utilities to collect their share of the allocation was included in the budget of President George H.W. Bush.

Nuclear utilities have maintained that they agreed to a 15-year, \$2.25 billion payment and that they have now paid their share. However, the conference report for EPACT records no such agreement. Indeed if Congress had meant to strike such a deal, it would have extended the authorization for the government's share for an additional 25 years, the period of time estimated in 1992 that it would take to complete cleanup. In addition, the behavior of nuclear utilities since 1992 belies that there was any such deal to which they were a party, since they have repeatedly brought (and lost) lawsuits to keep from paying any of the special assessment.

In any case, since no past Congress can in fact bind the actions of a future Congress, the real question is, what is the fair decision to make? The need for cleanup at DOE's cleanup plants continues to be a pressing need to protect the environment and the nearby communities. If utilities do not pay their share of the costs, then all of the remaining expenses will fall on the taxpayer. While it may be true that all ratepayers of nuclear utilities are also taxpayers, it is not true that all taxpayers get their electricity from nuclear power. Even now 19 states get no power from nuclear power. It is quite simply not fair for the taxpayers who did not benefit from the below-cost power to shoulder all of the remaining cost of that cleanup.

CONCLUSION

S. 2203 addresses the serious issues raised by the expiring authorities for the DOE's uranium cleanup D&D Fund by reauthorizing the Fund and ensuring the sufficiency of environmental funding, taxpayer protection, and community well being. We strongly urge your support for it.

Thank you for allowing me to testify and I look forward to your questions.

Decontamination and Decommissioning Fund: Summary of Preliminary Estimates
(in millions of nominal dollars)

	FY83	FY84	FY85	FY86	FY87	FY88	FY89	FY00	FY01	FY02	FY03	FY04	FY05	FY06	FY07 (Est)	Subtotal
Balance, Start of Year	---	148.0	189.0	186.0	439.0*	818.0	1224.0**	1612.0	2024.0	2374.0	2833.0	3249.0	3545.0	3831.0	4120.0	
Interest (Earnings on Investments)	0.057	4.4	24.0	20.0	37.0	60.0	38.0	124.0	124.0	153.0	132.0	68.0	124.0	194.0	212.0	1315.5
Tax Payer Contribution (General Fund)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Beneficiary Contributions (Utility Accounts)	---	129.8	134.0	350.0	377.0	388.0	398.0	420.0	419.0	420.0	433.0	445.0	459.0	446.0	452.0	5274.8
Total Receipts and Collections	148.0	172.5	160.0	160.0	165.0	148.0	171.0	175.0	181.0	186.0	189.0	193.0	198.0	205.0	213.0	2664.5
Balance and Collections	148.0	454.8	487.0	716.0	1018.0	1414.0	1832.0	2331.0	2748.0	3133.0	3587.0	3959.0	4326.0	4676.0	4997.0	
Appropriations:	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Premium Enrichment	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
D&D Fund	---	286.3	301.0	279.0	-200.0	-220.0	-220.0	-307.0	-374.0	-300.0	-340.0	-416.0	-499.0	-562.0	-556.0	-4860.3
Other	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Balance, End of Year	148.0	188.5	186.0	437.0	818.0	1194.0	1612.0	2024.0	2374.0	2833.0	3249.0	3545.0	3831.0	4120.0	4441.0	
Env. Restoration & Waste Mgmt	---	246.7	258.0	237.0	176.0	190.0	190.0	264.1	342.3	305.5	304.7	363.0	416.0	536.0	536.0	4566.3
Uranium/Thorium Reimbursements	---	40.6	42.0	42.0	34.0	40.0	30.0	72.0	71.8	70.0	15.9	51.0	79.0	20.0	20.0	568.3
Total Obligations	---	287.3	301.0	279.0	210.0	230.0	220.0	307.0	374.0	374.0	374.0	414.0	495.0	556.0	556.0	4229.3
Total Outlays	---	288.0	349.0	317.0	180.0	222.0	228.0	243.0	300.0	300.0	300.0	363.0	415.0	503.0	503.0	3748.0

Reference: Office of Management and Budget, Budget of the United States Government: Appendix, for Fiscal Years 1995-2008.

Notes:

*FY1987 accounted for a \$2M increase from the FY1986 Balance, End of Year.

**FY1989 accounted for a \$30M increase from the FY1988 Balance, End of Year.

Senator TESTER. Thank you, Mr. Warren.
Mr. Longenecker.

**STATEMENT OF JOHN R. LONGENECKER, LONGENECKER &
ASSOCIATES, INC., LAS VEGAS, NV**

Mr. LONGENECKER. Thank you, Senator Tester, Senator Domenici, Senator Bunning, it's a pleasure to be here today.

A little more than 20 years ago when I first testified before the Senate on the subject of uranium enrichment, at that time, I was the Deputy Assistant Secretary of DOE, for Uranium Enrichment, so this is a subject that I know quite well.

As such, I believe strongly that the issue of how to decontaminate and decommission the existing GDPs is really, vitally important. Certainly important to everybody who lives around those three GDP sites, but it's also vitally important to the nuclear industry, the electric rate-payers, and the Federal Government.

Now, there's no question that the GDP sites—all three of them—must be cleaned up. DOE is working to define the how, you know, the specific scenario under which they can be cleaned up. However there are significant public policy questions regarding how to pay for the GDP D&D.

I strongly believe that the U.S. Government should be liable for all the future cost of GDP cleanup, just as they were prior to the enactment of this provision in 1992.

The U.S. Government can secure all the funds required for GDP cleanup by selling, in a controlled manner, its excess inventories of highly enriched uranium and other forms of uranium, including high-assay tails.

Now, this highly enriched uranium and these other forms of uranium were generated by the gaseous diffusion plants as part of the Nation's defense effort under programs that were paid for by all of the taxpayers. It seems a reasonable public policy to recover the value of this material, and to use the proceeds for a range of DOE and other programs that have broad public benefit, such as GDP cleanup, to provide supplies, security for new nuclear power plants in the United States, as a key part of U.S. non-proliferation policy, and to help stabilize future nuclear fuel prices.

This approach is particularly attractive, given the recent increase in uranium and enrichment prices.

Now, there's a strong factual base that U.S. utilities were not responsible for the radioactive contamination of these plants. Essentially, all of the contamination at the GDP sites occurred during the first 15 to 20 years of their operation, when they operated solely to produce highly enriched uranium for the military.

When these plants were taken over for commercial enrichment in 1969, 15 to 20 years after each of them was built, they were fully and totally contaminated.

The three GDPs, when they were operated for commercial enrichment, which was my responsibility when I was in the Department of Energy, established its pricing structure to include all program costs, including the eventual D&D of these plants.

Now USEC's GDP lease, which was approved by DOE in 1993, 1 year after the enactment of this Act, reflects this fact with USEC having no residual GDP D&D liability for either Portsmouth or Pa-

ducah. As a commercial enterprise, USEC has the liability for any depleted uranium and other waste that it generates after 1993, and for any new facilities that it constructs, like the advanced centrifuge plant. Seems to me, that this definition of liability is fair and equitable and also should extend, in the future, to the U.S. utilities that purchased enrichment services produced by the GDPs in the past.

Mr. Chairman, in summary I believe that the U.S. Government should be liable for all future costs of GDP cleanup, as it was prior to the enactment of this provision in 1992. U.S. utility payments over the past 15 years of approximately \$2.66 billion more than satisfy the desire for industry to make an equitable contribution to GDP cleanup in the public interest. The U.S. Government can secure all of the funds required for GDP cleanup by selling its excess inventories in a controlled manner of highly enriched uranium and other forms of uranium. These inventories, again, were purchased by the government using taxpayer money are now excess to need, and certainly from a public policy point of view, it seems to me, selling them to clean up the GDPs just makes good sense.

The quantities to be sold, however, the timing and the sales process have got to be carefully developed with strong industry participation, to assure that a healthy domestic nuclear fuel cycle industry continues in the future.

Now, the fact is the industry knows these excess inventories are there, and they're concerned that the government is going to sell them someday, and they want the certainty of having a firm plan as to when they'll be sold, at what rate, and by whom. So, developing that plan would provide certainty to USEC and to everybody else who wants, who aspires to be in this business in the future in the United States.

It's troubling to me, 25 years later that today we're more highly dependent in this country on uranium enrichment services than we are on crude oil. We actually import more of our uranium enrichment services for nuclear fuel than we do crude oil. The USEC market share of the world market is substantially less, almost half of what it was 20 years ago. So, this definition of what we do with these inventories can be a key part of rebuilding a viable commercial nuclear fuel cycle industry in the United States.

Thank you for your attention, I'd be pleased to respond to any of your questions.

[The prepared statement of Mr. Longenecker follows:]

PREPARED STATEMENT OF JOHN R. LONGENECKER, LONGENECKER & ASSOCIATES,
INC., LAS VEGAS, NV

Mr. Chairman, thank you for the opportunity to appear today to present my views on the Uranium Enrichment D&D Fund. The United States has an overarching need for a comprehensive strategy for how to maintain viable, competitive nuclear fuel cycle companies in this country for the decades ahead. Addressing nuclear fuel cycle issues is a key element in allowing the US to continue to rely on nuclear power in the future. Over the past several years DOE has been working to put in place the policy and technology base for a sustainable, competitive domestic nuclear fuel industry for the future.

A healthy US uranium enrichment business is a key part of a sustainable domestic nuclear fuel industry. It's troubling that today the US imports a higher percentage of its uranium enrichment services for nuclear fuel than it does crude oil. However, it's gratifying to see that there are multiple efforts underway to construct new uranium enrichment capacity in the US.

The issue of how to decommission and decontaminate the existing GDPs is also vitally important. GDP D&D is an important issue to those who reside in the vicinity of the three US GDP sites, the nuclear industry, electric ratepayers, and the federal government.

There is no question that the GDPs sites must be remediated, and DOE is working to define the most effective approach to that task. However, there are significant public policy questions regarding how to pay for the GDP D&D.

I strongly believe that the US government should be liable for all future costs of GDP D&D, just as they were prior to the enactment of this provision in 1992. The US government can secure all of the funds required for GDP D&D by selling in a controlled manner its excess inventories of HEU and other forms of uranium, including high assay tails, material previously considered as waste.

US HEU was generated by the GDPs as part of the nation's defense effort under programs that were paid for by all taxpayers. It seems reasonable public policy to recover the value of this material, and to use the proceeds for a range of DOE and other programs that have broad public benefit, such as GDP D&D.

There is a strong factual base that US utilities were not responsible for the radioactive contamination of the gaseous diffusion plants. Essentially all of the contamination at the three GDP sites occurred during the first 15-20 years of operation, during which time these plants were devoted solely to generating enriched uranium for US military needs. When the GDPs began operating for commercial fuel enrichment in the late 1960's, the three GDPs were already highly contaminated. When DOE managed the GDPs for commercial enrichment operations, its pricing structure was developed to include all program costs, including the eventual D&D of the GDPs.

USEC's GDP lease, that was approved in 1993, reflects this fact, with USEC having no GDP D&D liability for either the Portsmouth or Paducah GDPs. As a commercial enterprise, USEC has the liability for any depleted uranium that it generates, and for new facilities that it constructs like the Advanced Centrifuge Plant. It seems to me that this definition of D&D liability is fair and equitable, and also should extend to the US utilities that purchased enrichment services produced by the GDPs in the past.

Despite this, over the past 15 years, utilities were assessed more than \$2.5 billion for GDP D&D, as well as uranium and thorium mill tailing remediation costs.

Extension of the current tax on utilities that operate nuclear power plants to fund future D&D activities could place added pressures on USEC and other evolving US uranium enrichment businesses that are already under strong competitive pressures.

Taxes like this lead utilities to be concerned about future assessments to generate funds for US government programs, and are just one additional factor encouraging US utilities to buy enrichment services from foreign suppliers. Since this provision was enacted in 1992, USEC's share of the US SWU market has decreased from more than 80% to about 45% in 2006. Even more striking, this reduction in market share occurred in the face of trade sanctions imposed against foreign competitors.

Also, of the SWU delivered to US utilities today, an overwhelming majority is obtained by USEC from Russia under the Megatons to Megawatts program, which downblends weapons grade uranium for commercial use. The Russian government agreed to downblend 500 MT of its HEU inventories in 1993 and this program has had significant non proliferation benefits.

But, the US now is very dependent on these supplies from Russia, and deliveries are scheduled to terminate in six years.

Based on the success of the Russian HEU downblending program, it seems that there is an obvious and equitable source for funding future GDP D&D—namely, the downblending and sale in a controlled manner of a portion of the excess inventories of US HEU and other forms of uranium. This HEU was produced by the US GDPs, and can be used to fund their clean up, to provide supply security for new nuclear power plants in the US, as a key part of US non proliferation policy, and to help stabilize future nuclear fuel prices. This approach is particularly attractive given the increase in uranium and enrichment prices.

The quantities to be sold, the timing, and the sales process must be carefully developed to assure that a healthy domestic nuclear fuel cycle industry continues in the future. Since the existence of large government inventories of HEU and other forms of uranium will always be a concern impacting future investment in the commercial nuclear fuel cycle industry, a firm disposition plan and schedule are essential.

SUMMARY

In summary, I believe that the US government should be liable for all future costs of GDP D&D as it was prior to the enactment of this provision in 1992. US utility payments over the past 15 years of approximately \$2.66 billion more than satisfy the desire for industry to make an equitable contribution to GDP D&D in the public interest.

The US government can secure all of the funds required for GDP D&D by selling in a controlled manner its excess inventories of HEU and other forms of uranium. US HEU was generated by the GDPs as part of the nation's defense effort, and was paid for by all taxpayers. It seems reasonable public policy to recover the value of this material and to use the proceeds for a range of programs that have broad public benefit.

Thank you for your attention.

Senator TESTER. I want to thank you for your testimony, too, and I want to thank the entire panel for their conciseness in their remarks.

Thank you much, we're going to start with Senator Domenici.

Senator DOMENICI. Let me say to you, Mr. Longenecker, I hope that record is brief, but I hope your description of who you are adequately depicts you as an expert in this field.

Now, you've been doing these kinds of things for an awful long time, at a very high level of participation, and so it is good to hear from you because you kind of were there when it happened. Even though you're not 100 years old, you still look pretty good.

Mr. LONGENECKER. It could prove that working in the nuclear industry has positive health effects.

[Laughter.]

Senator DOMENICI. That's true, there's no question about it. Some people say that's true.

Let's see, I had one question that I thought was very interesting. You were talking about, Mr. Longenecker, in the closing remarks about U.S. dependency—if we are going to go have a renaissance and start building nuclear power plants, and it looks like we are unless something or someone throws a wrench into the wheel—it seems to me that the question of where we're going to get our enriched uranium is very important.

I think it's absolutely important that we further clarify your statement, because there is a new enrichment plant that's up and going, and belongs to LES. It's going to be a major plant, and it's in New Mexico, so I know more about it than normal. It's a twin to the one that they have in Europe, which we've seen.

Now, AREVA has just announced that they are going to build a uranium enrichment plant in the United States, so that's two that we didn't have when we started preparing for these hearings. Those two will help the shortfall, will they it not, that you have been talking about?

Mr. LONGENECKER. They will, indeed, and I think it's, again, it's gratifying that we have those three companies interested in building new capacity in the United States which will provide supply security, but again the issue that I mentioned, the existence of the government inventories, as well as responding to Senator Bunning's question as to whether the government is going to place a surcharge on enriched uranium services produced in the United States is very important to whether they continue those plants.

Because if I were a U.S. utility, when I was running the business, this happened all the time. If we raised the price or placed

a surcharge on them, they just got it abroad. Today we're getting, you know, 80 percent of our enrichment services generated overseas, and there is excess capacity in other countries, not in this country—but they do have an option as to why they buy.

So to create the market for those, it's going to be very important that we set good public policy, and a level playing field.

Senator DOMENICI. You bet. I mean those who are looking at the United States don't expect a surcharge at this point, they don't expect the excess or assets that are held by the Department, and they don't expect them to be thrown on the market, willy-nilly. At least they're making business judgments and assume the government will make business judgments as they dispose of their assets.

I think that it would be important to find out what the Department intends in that regard, and I'm going to ask the Chairman, and then I'm finished here, if we could come up with a joint letter that him and I would sign, asking the Department if they have any plans with reference to the disposition of tails and the other things and also remind them that if they are going to, they ought to do that in a manner that provides a calmness to the market so everybody can expect a game plan that is participatory of what the private sector's planning, not just arbitrarily coming up with how they're going to dispose.

We've heard that they have a lot of assets that might pay part of this, a big part of their bill here. You weren't in when that happened, but I don't think we know enough about it, about what they plan, and I think we should now try to compose a letter and see if it makes sense.

With that, I just want to say to all of you, thank you very much.

Mr. Warren, knowing who you represent and what your main interest is, I can say I was very interested in your testimony. We don't agree on certain things, but I thought it surely indicated that you know what you're talking about, so I thank you for that. You're not coming too off the wall like some used to 15 years ago, this is very good.

Mr. WARREN. I appreciate that.

Senator DOMENICI. Thank you.

Thank you, Mr. Chairman.

The CHAIRMAN [presiding]. Senator Bunning.

Senator BUNNING. Thank you very much.

There are so many questions because if you look at the agreement that was struck in 1992, and the sharing of the burden between the industry and the Federal Government for the last 15 years, you wonder why—as Mr. Warren said—there's not going to be a continued sharing, realizing that we are in competition worldwide for enriched uranium.

I have a son who works at a nuclear power plant, who's a nuclear power plant operator, and they buy their enriched uranium not only from Paducah, but from other places. So if there is a surcharge put on domestic enriched uranium, we have real problem. Because, I am sure if I were a commercial operator of the nuclear power plant, like Excelon or someone like that, and enriched uranium from Europe was cheaper than it was from Paducah, I would be buying it from the best place possible.

So, there's a balance we have to strike in this new agreement that we're trying to come to, where we're seeking information, and the reason we're seeking information is that this thing has worked, and there's a shortfall. Because, I guarantee you, none of us are going to be alive when—and I don't care how young you are when this thing's finished. If you go to Paducah, or go to Portsmouth and look at—including you, Senator Tester, and I know you're younger than the rest of us—if you look at the contamination that occurred prior to commercial uranium being sold on the market in 1992 when the commercial agreement was reached, contamination occurred 30, 40 years prior to that, when we started building nuclear bombs for our products for our military.

So, we're trying to determine who's responsible. Who owns the tails? The DOE does. So, they should use some of that money, in my opinion, to pay for the cleanup of what they contaminated during the use of those plants, prior to this agreement.

But, we've got bills going in the House that say the operators, USEC, should get some of that money. Yes, they should get money for processing it, but not for the ownership of those tails. The DOE owns those.

My question to all of you is, what portion—or should all of those—tails be sold and owned by the DOE, should that money go into the funding to be used for the cleanup? I want to ask the GAO, because they've been here longer than all of us.

Not you, specifically—

[Laughter.]

Senator DOMENICI. The organization.

Senator BUNNING. Not you—

Ms. NAZZARO. Not me, personally.

[Laughter.]

Senator BUNNING. Not you, but your capacity as an entity. So, can you give us a handle on that?

Ms. NAZZARO. Senator, we haven't looked at that issue. What you'd want to look at is, how much is there, and what is it worth? What can the market really bear, because, I mean, you can't dump it all into the market immediately. We'd want to be able to do some analysis to figure out, whether that makes sense.

Senator BUNNING. The DOE—

Ms. NAZZARO. It sounds like from a conceptual point of view, to be able to sell off some of that to help offset costs, certainly makes sense. How much? I couldn't tell you just off the top of my head.

Senator BUNNING. But that would be a source of revenue that is not anticipated in any agreements that we now have?

Ms. NAZZARO. Not from what I've seen, no.

Mr. FERTEL. Senator, that's clearly what we're proposing be looked at. I think John Longenecker said it the right way—you don't want to just dump material on the market, because then you hurt the uranium market in this country, you can hurt the enrichment market if you dump other things. So, it's a matter of selling it smart. One of those things that you've said, and the Secretary said, is this is a long-term project that goes out to at least 2040. You can do it smart, and you can generate the revenue.

From a commercial standpoint, we have paid—we think—our obligation, not only to the GDPs, but we do it at our facilities right now, we put aside decommissioning funds——

Senator BUNNING. For your local facilities.

Mr. FERTEL. Our understanding, and Mr. Longenecker mentioned in his testimony was that the price of the product that the companies bought included whatever D&D cost——

Senator BUNNING. It was supposed to.

Mr. FERTEL. It was supposed to.

Senator BUNNING. Sometimes, in competition, it did not.

Mr. FERTEL. I know, I know in the world of government from we know from the waste fund, we don't always have a contract work the same way we expect it works in the commercial world, but usually when you sign a contract and you pay your part, you get your product. They don't come back later and say, "Gee, we forgot something."

Senator BUNNING. "By the way, you owe us——"

Mr. FERTEL. So, we honestly have always met our obligation when we believe we have one. If we don't think we have one, we look for another way to generate revenue for you, and I think again, John Longenecker offered up a good point—the GDPs produce the excess HEU that we have, it produced the tails that we have with taxpayer money. Figuring out how to use that surplus HEU, and use these tails as an asset, and put them in the market in a way that doesn't disrupt the market—and you have a lot of time to do it—will be a major revenue source that could be used to make up deficits on the GDP D&D Fund.

Senator BUNNING. If the Department of Energy would just come forward and say, "Yes, we own these things," it would really be a big step forward. Because I know there's going to be some things put in the House that say that the plant operators who have produced these tails in the production of enriched uranium have a legitimate interest in owning them. Or, the communities, for that matter, would like to see some of that money come back into the communities.

For the cleanup of those plants, I agree, that that may be the use of it.

Thank you very much for your—go ahead, Mr. Warren.

Mr. WARREN. I'm sorry, Senator, if I could just address a couple of issues briefly.

The 1992 Act did several balancing acts. One was what should the ratio between the beneficiaries be, and it was based on services received. But another was this issue of not wanting to injure the trade position of the domestic enrichment industry.

So, I want to dispel what, I think, might be a misconception, which is that the portion which is collected from the utility sector is not done as a surcharge on enrichment services. That the 1992 Act, in effect, said that for the utilities that received past services, this is your share of the total, we're going to send you a bill. They basically sent a bill.

So now it's free to USEC and other domestic producers to go out and produce their product at a competitive market rate, and without prejudice toward utilities buying domestically.

So, I just wanted to make it clear that if this legislation, 2203, extends that special assessment, it would not be in the form of a surcharge on enrichment services.

Mr. LONGENECKER. Can I just address that? Because, if I'm a utility, and you're placing a \$200 to \$300 million surcharge retroactively if I buy domestically, and I have no surcharge if I buy foreign, I think I'd continue to buy foreign, basically to avoid the risk that I could get a surcharge like this in the future.

Senator Bunning, on the depleted uranium, I think the key there, because you raise a very, very good point—if we don't re-enrich those tails, and there's several billion dollars out of residual uranium value there in today's prices, the plan would be to dispose of them as waste.

So, we have something, again, paid for from taxpayer dollars that we can either pay to dispose of as waste in the DUF6 plants, or have someone re-enrich and get back with the taxpayers, and it can be used for GDP D&D or any other thing that Congress decides.

But there is several billion dollars of residual value there, that can be obtained by finding an economic enrichment source to strip them and get that uranium.

It does seem logical to me that since they were generated by the GDPs, that you would devote those revenues to GDP cleanup. But that's a decision for Congress to make.

Senator BUNNING. Thank you very much.

Senator TESTER. Ms. Nazzaro, I've got a question, in regards to the shortfall in the report that you've mentioned. I guess the question is, when was—I assume there's a previous report to this one—it put out? Then, can you tell me the correlation between that report, whether there was a potential shortfall in it or not, and this report?

Ms. NAZZARO. Between the DOE reports?

Senator TESTER. I assumed it was—

Ms. NAZZARO. You're referring to DOE, which did a report in 2001—

Senator TESTER. That'd be fine. The DOE report is fine, and I would assume there was a previous DOE report—

Ms. NAZZARO. Right. In 2001, DOE did a report.

Senator TESTER. Right.

Ms. NAZZARO. DOE did not do one in 2004, and they just did one now in 2007, which we have not really had time to analyze. They would not share the information with us. Committee staff did share it with us late yesterday afternoon. We do see that there are some date changes, although very modest, and we do see some number changes. We would really have to take some time to go in and analyze the numbers, verify the accuracy, and look at the source of those numbers.

But, we are concerned that this not be considered even as a final plan, because DOE has continued to identify a number of uncertainties. For example, one of them has to do with the onsite storage issue at Portsmouth and Paducah, which has not been resolved with the State.

So, if onsite storage is not a strategy that's pursued, that could add additional money, to the cleanup exercise. So, really what DOE

is laying out right now still may not be even the final numbers of what this is all going to cost.

Senator TESTER. OK.

Ms. NAZZARO. That was where, in 2004, we were suggesting, extend the Fund until 2010, and give DOE time to develop a report that would give us that final data. The final report on the D&D was supposed to come from DOE in 2007, that was due October 2007. So, what we would like to still see, is that they develop this report, tell us what it's going to cost, so we can make some assumptions, as to how we're going to pay for it.

Senator TESTER. OK, thank you.

Mr. Warren, as far as re-enrichment of the leftover material, do you support doing that to defray costs? I thought you indicated that in your comments, but I just wanted to make sure.

Mr. WARREN. What we support is the approach in this legislation which is to have the Department do a study of it. What we want to emphasize, is that that study should be guided by certain principles. One would be that any revenue that might be realized from this process—which we believe would take in the form of some kind of controlled auction of the depleted tails to the private sector, that you want to maximize the return to the taxpayer, you want to get fair market value for it, and then you want to take that money toward the taxpayer's obligations, not toward the utility sector's obligations.

The second principle is that you don't want to get the government back in the uranium enrichment business. It was a long journey to get us where we are now, where that's a private sector activity, and that's what's appropriate. So that would be the second principle.

Then, of course, compliance with all environmental laws.

Senator TESTER. All right, so do you support the re-enrichment of that material?

Mr. WARREN. We're open to that. We think that, depending on what the study comes back and recommends, we'll have a better-informed decision, but we think it's well worth looking into. It could provide a valuable contribution toward the government's share.

Senator TESTER. OK.

Ms. NAZZARO. Senator.

Senator TESTER. Yes.

Ms. NAZZARO. It's my understanding that the committee has asked GAO to look into that. Apparently, we're looking at whether advocating it is selling the HEU into the marketplace, or re-enriching leftover high SA material from prior enrichment operations. It's my understanding that it's too preliminary for me to give you any results at this time, but early Spring, we should be able to brief the committee on that study.

Senator TESTER. That would be good, that would very good.

Mr. Longenecker, you had said in your statement that the contamination of the plants that occurred prior to 1969, which you had said was only used for military purposes at that point in time. The plants were—I believe you said fully contaminated by the time the contracts were entered into with the utilities.

Mr. LONGENECKER. That's correct.

Senator TESTER. Could you explain that a little bit, and really, what I'm looking for is that statement indicates to me that the utilities have no liability whatsoever, because it was fully contaminated. I guess, if you started at ground zero, and I don't know a lot about uranium or atomic power or whatever—but if you started at ground zero, would there be contamination that occurs simply by the enrichment. Do you see what I'm saying?

Mr. LONGENECKER. When the plants were built, what you had was, basically, clean steel, nickel and other alloys sitting there. When the military began using them, first at Oak Ridge to generate highly enriched uranium for the bomb, we had all types of radioactive and non-radioactive components to those, and operating them, particularly the major cost of cleaning up those plants is getting rid of the large volumes—uranium-contaminated—metal, although it's low-enriched, and the barium in them is classified, putting in a classified burial ground.

So, from the time over the first year, certainly in the 15 years, 20 years that Oak Ridge ran, that plant was fully radioactively contaminated. The same with the chemicals that it had in it.

The residual contamination that you would have from continued operation after AEC, ERDA, DOE took them over in 1969, was the depleted uranium, the tails that we're talking about here today, that's being handled separately, and of course USEC and LES and AREVA will all pay to have their depleted uranium disposed of.

But the plant proper, excluding the tails, the waste stream, the plant proper was contaminated as soon as you loaded it with nuclear material and generated the first highly enriched uranium. You had this large volumes, huge volumes, of metal and concrete that were radioactively and chemically contaminated.

Senator TESTER. If such a plant were built today, that would be the same case.

Mr. LONGENECKER. That would be exactly the same case.

Senator TESTER. OK. So your contention is that, because it was used for military purposes first, that the utilities really have no liability there, even though utilities have been getting a benefit from it?

Mr. LONGENECKER. That's correct and, you know, again, look at how the USEC lease was generated. USEC is a commercial company, when DOE gave USEC the lease for the GDPs, and that was signed in 1993, it said the plants are fully contaminated, and USEC will only be liable for residual contamination that it creates. the depleted uranium, any additional waste that it generated, and if USEC built new facilities.

Now, that is a different thing if USEC were to build the American centrifuge plant, they would be liable for that, but otherwise, those things were fully contaminated, paid for by the taxpayer, and we told—when I was selling enrichment services to customers, because it was very important, that D&D was in our price, and it was all in price, and we wouldn't be coming back to them.

What I think was interesting we haven't talked about today, in 1992 the surcharge that we put on utilities, we excluded all of the non-U.S. buyers of enrichment services. So, all of the non-U.S. companies that bought enrichment services to run their nuclear plants that are our commercial competitors aren't paying a surcharge.

Senator TESTER. OK.

Mr. LONGENECKER. So we excluded them because we couldn't find a way to tax them, but that's why it is not good public policy, it seems to me, to continue that, either for our domestic industry or for competitive position in the world.

Senator TESTER. OK, Mr. Warren, you had a comment to that?

Mr. WARREN. Yes, this issue has come up a couple of times, and it is a key issue in terms of the plants were already contaminated, so why should the utilities have to pay anything for it? So, I'd like to focus on that for a moment.

You have to go back in time to the 1960s, really, which was before my time on this issue. But, at that time, basically there was a choice that the Nation faced. We wanted to promote nuclear power as a domestic source, we had these military facilities. Either the domestic industry could have built its own enrichment plants, or the government could make its facilities available.

If the private sector had built its own plants, it would have been responsible for 100 percent of those cleanup costs. Instead, we thought it made better sense to take advantage of these existing facilities with the understanding that the private sector would pay—not only the variable costs of operating them—but pay toward the fixed plant investment.

Now, at that time, we didn't have a very sophisticated understanding of cleanup, and so we didn't, you know, estimate and set the money aside in the way that we should have.

But the philosophy was that, we were saving the industry this fixed investment, they had to contribute to the government's fixed investment.

So, then you have to jump forward to the 1990s, and when we sort of said, "We have this cleanup liability, the Atomic Energy Act Section 161(v) said, we're supposed to collect all of the costs, but we haven't, so now how are we going to pay for the cost?"

At that time, the DOE testified, in 1991, that it should be on the basis of enrichment services purchased, which they estimated to be about 50/50. It's true, we couldn't collect from foreign utilities, and so the government picked that up, so it went down to a third.

But they said that the concept would be 50/50, based on enrichment services. The next year, the first Bush Administration, President Bush, in 1991 said, the way to collect it is on a fee on utilities. So, that decision then became embodied in the 1992 Energy Policy Act and really is the basis for our position that that should be the philosophy going forward.

Senator TESTER. Gotcha.

Mr. FERTEL. Senator, I feel like Paul Harvey—and now the rest of the story—Wes is right, the government did have the utilities use their facilities, because the utilities weren't—the commercial industry was not allowed to have the technology to build enrichment facilities in our country so, we ought to be clear, it wasn't an option, the commercial industry had at all.

Having said that, he's right—161(v), which is the Atomic Energy Act—required the government to collect all of the appropriate costs, as Mr. Longenecker said, he ran the program, they did look at D&D costs, there is a requirement in the Code of Federal regulations that they include certain D&D costs, it should have been

looking at disposal tails—that's what we would have assumed, again, from a commercial standpoint. You're buying and paying for a service. You don't have any choice but to buy it from this one supplier, who is the Federal Government, at this point, they're pricing it at whatever price they want, and you're paying for it. You're told it includes everything, including D&D, and in 1992, when Wes was on the House side, and believes firmly in what he's saying, because he believed it then, a deal was struck—not a contract, not an assessment—a deal.

The deal was, the industry would make the payments they're making, they would go through as a fuel adjustment clause payment, and we've done that. The government hasn't met its part of the 1992 deal.

There were some utilities that went to court, because the deal was cut, and people testified before this committee and before the House committee at that time, the courts didn't rule in favor of the utilities, because they said, "You agreed to it." OK? That wasn't because they thought they had the obligation, they were doing a deal.

So, what we need to do is look at this, and figure out how to do the right thing for the GDPs. We've got to clean them up. It's a long-term thing. Studying what to do with HEU—we can study it to death, we ought to figure out how to do it—it's not a study of can you do it, it's how you put it in the market so you don't disrupt the market, the surplus HEU, and also re-enriching the tails.

Don't wait forever on re-enriching the tails, because the reason it's become an asset is uranium prices are high. Uranium prices will stay way above where they were for a long time, but the reason it's a real good asset now is because they are high. So, begin to figure out how to take advantage of that.

There is about 74 million pounds of U308 equivalent in the tails. At today's price, which you probably couldn't get forever, that would be \$7 billion, if you could sell it.

So, we ought to figure out how to use the waste which is now an asset, and the assets that came out of the GDPs to help solve this problem and move forward on it, and that's a good solution in using material the government produced.

The CHAIRMAN. No problem, thanks for those good questions.

Let me just ask one question, Mr. Longenecker, as you, under this Energy Policy Act of 1992, the special assessment on utilities was imposed on the basis of, "the total amount of separative work units purchased from the Department of Energy before the date of enactment of that bill."

The bill before us, the one we're now considering, does not change that basis for additional assessments. So, if we were to go ahead with this bill, how would the bill provide a disincentive to future purchases from LES or USEC, if the assessments are made on the basis of past purchases from DOE.

Mr. LONGENECKER. Senator, I think my position on that is, if you're buying from a U.S. supplier, and the utilities who are just a handful of major commercial nuclear utilities realize that buying from a domestic supplier, they were one, subject to a retroactive assessment, and they may be again under U.S. law. If I were them, I would make that a consideration. Because, again, the \$200 million a year, I'd say, "If I bought AREVA or the Russians, I'm not

facing that, I don't have to face a U.S. Government surcharge, and if I buy from them 20 years in the future, the U.S. Government may decide again that they need funds for some environmental cleanup and they may tax me." That's the concern I have.

The fact that, for a lot of reasons, one would be this type of surcharge, USEC's market share went from 80 percent of the United States in 1992 when this bill was passed, to, you know, less than half now. So, I mean, there has been a significant impact, people are not buying enrichment services in this country, and my thought is, from a public policy point of view, we ought to give the utilities in this country as few reasons as possible to buy offshore.

The CHAIRMAN. OK.

Mr. LONGENECKER. It's not a direct linkage, I would agree, but—

The CHAIRMAN. Mr. Warren.

Mr. WARREN. I would certainly agree that there's no direct linkage, and we have 15 years of experience since 1992, and I don't think there's any evidence that there's been a prejudice against buying U.S. services because of this special assessment.

If you bought enrichment services before 1992, and really, the question for the committee now is, going forward, whether you want to say future purchases are not going to have to pay a surcharge, we're just going to collect this special assessment on these pre-1992 services. So, I think that the trade issue is really a bit of a canard.

But the one issue that I want to make sure that I address is this notion that there was a deal in 1992, that the nuclear utility industry would never have to pay anything again. In fact, the deal in 1992 was, utility industry would pay for 15 years, not more than two and a quarter billion dollars, and that the government would pay for 15 years, the difference, which was about \$15 billion, adjusted for inflation. That was the deal.

Then it left open what Congress would do in the future when, at the end of that 15-year period when we could assess the success of the program. Now we're at that point in time, and I believe that the philosophic principle that was established in 1992 should be the governing principle, which is the beneficiaries of the program should share the expense, and in proportion to which they got enrichment services.

The CHAIRMAN. Why don't we stop with that, thank you all, it's been very useful testimony, a good hearing, and that will conclude the hearing.

[Whereupon, at 11:33 a.m., the hearing was adjourned.]

APPENDIX
RESPONSES TO ADDITIONAL QUESTIONS

RESPONSES OF MARVIN S. FERTEL TO QUESTIONS FROM SENATOR BINGAMAN

Question 1. Your testimony indicates that the contracts signed by the utilities with the government included all costs including any D&D costs—can you please explain that in more detail—was it part of the contract that the utilities were paying into a D&D fund?

Answer. The “established DOE pricing policy” at the time the parties contracted was that DOE’s prices would recover only the government’s costs over a reasonable period of time. This policy was mandated by section 161(v) of the Atomic Energy Act of 1954, which provided that “any prices established under this subsection shall be on a basis of recovery of the Government’s costs over a reasonable period of time.” 42 U.S.C. § 2201(v) (1988). Section 161(v), as amended, also directed DOE to “establish criteria in writing setting forth the terms and conditions under which services provided under this subsection shall be made available.” *Id.* Pursuant to this directive, see 10 C.F.R. § 762.1(a) (1987) (“these criteria are established pursuant to section 161(v)”), DOE published its Uranium Enrichment Services Criteria (Enrichment Criteria). The final Enrichment Criteria were published in 1986 and echoed section 161(v)’s cost-recovery based pricing policy. See *id.* § 762.5. The Enrichment Criteria also listed the costs included in DOE’s charge, which included, *inter alia*, certain decontamination and decommissioning (D & D) costs.

Question 2. Approximately how much percentage wise is the assessment on the net revenues of the industry?

Answer. As stated in my testimony, the industry is fully supportive of Congress taking appropriate action to assure that adequate funding is available for the safe and environmentally responsible D&D of the government owned GDP’s. In this regard, as required by EPACT, the industry has already fully paid its obligation of \$2.6 billion to the fund. Further, as indicated during the hearing, Mr. Longenecker, who was the DOE official responsible for the government’s enrichment program, indicated that the commercial sector should not have any additional liability for D&D at the GDP’s. Unlike any other source of electricity, nuclear power plants have internalized the costs for externalities, including the cost for waste disposal, decommissioning, fees paid to the NRC and FEMA, etc. As such, we are committed to paying for those obligation and liabilities legitimately owed. In the case of additional payments to the D&D fund for the GDP’s, regardless of whether they are a large or small portion of net revenues, we do not see this additional cost as a legitimate charge that the consumers of electricity from nuclear power plants should have to bear.

Question 3. Your recommendation includes sales of the HEU stockpile and the supply of surplus nuclear fuel into the markets in a “responsible way”—can you please explain this in more detail?

Answer. Sales of HEU stockpile need to be metered into the market in order to not disrupt the developing uranium recovery and enrichment facilities deployment in the United States. It is important to have a domestic supply of uranium, conversion, enrichment and fabrication. For the past ten years there was no uranium production to speak of and the US industry was and still is limited to a sole domestic supplier of enrichment services, which doesn’t have the capacity to meet 100% of domestic demand. Currently uranium mining is staging a come back as well as four companies have either started licensing and construction or announced plans for enrichment facilities in the US. While the market can accommodate the introduction of surplus US government nuclear fuel and still support the development of new primary production facilities in the US, its introduction into the market needs to be done in a fair, transparent, limited and certain manner.

Question 4. Since you have mentioned the HEU stockpile and US-Russian HEU agreement to blend down Russian weapons HEU, our understanding is Russia has stated they do not want to extend it—would the NEI support extending it?

Answer. Clearly, from a non-proliferation perspective, the existing US-Russian HEU Agreement and any extension of it is extremely positive and NEI is fully supportive of achieving this desirable non-proliferation goal. We understand that after 2013 Russia may desire to continue to blend-down HEU and to sell the LEU, or its component parts into the global market, but we also understand they likely will not continue to do so, post-2013, in the same way they do under the current agreement.

RESPONSES OF JOHN R. LONGENECKER TO QUESTIONS FROM SENATOR BINGAMAN

Question 1. You advocate selling HEU from the U.S.—Russian HEU agreement to offset the cost of clean up of these plants, would it be both U.S. and Russian HEU or just U.S.?

Answer. My testimony referred solely to surplus US HEU held by DOE.

Question 2. Your testimony mentions “other forms of uranium”—is re-enriching the existing left over material or tails of high assay content at the existing plants a feasible option for generating clean up revenue as compared to the sale of down blended HEU?

Answer. Yes, re-enrichment of the high assay tails and the sale of the recovered natural-assay uranium, worth several billion dollars at today’s market prices, is both feasible and desirable, in my opinion.

Question 3. Your testimony indicates that the plants were already contaminated by the time they entered into contracts with the utilities—can you please explain this in more detail.

Answer. The GDPs were radioactively contaminated when enrichment operations for defense purposes began. Since the GDPs began operation in the late 1940s and early 1950s, the volume of equipment in each plant that must be disposed of as LLW has not changed, and thus the government’s total liability for D&D was unchanged when the three GDPs were subsequently dedicated to commercial enrichment operations in 1969, 15-20 years after they were built.

USEC’s GDP lease, that was approved in 1993, reflects this fact, with USEC having no GDP D&D liability for either the Portsmouth or Paducah GDPs. It seems to me that this recognition of the government’s D&D liability is fair and equitable, and also should extend to the US utilities that purchased enrichment services produced by the GDPs in the past.

Question 4. My understanding is that when we build an enrichment plant such as the one in New Mexico, the cost of the clean up bond is most likely built into the cost of conversion for the utility—did the government do this as well?

Answer. DOE did include D&D in its price for enrichment services charged to utilities, but did not accrue the money so generated in a special fund set aside for D&D, as LES and USEC are now doing.

RESPONSES OF JOHN R. LONGENECKER TO QUESTIONS FROM SENATOR DOMENICI

Question 1. You stated that there are a number of ways that the Department of Energy can raise the necessary funds required for cleanup of the plants by selling excess HEU and other material previously considered as waste. Recognizing that you are no longer with the Department, do you nevertheless have a rough estimate of what this material might be worth?

Answer. The value depends on the market price of uranium, conversion and SWU when the inventories are sold, less the processing cost to prepare the material for sale; but at today’s prices the total value of all excess government inventories is in the tens of billions of dollars. As an example, DOE’s declared excess inventory of 160.3 Million lbs U3O8e at \$100 /lb U3O8 would be worth approximately \$16 Billion. The value of LEU that would be generated by downblending 500 MT of US HEU would be approximately \$22 Billion.

Question 2. Your testimony notes that when the GDP’s began operating for commercial enrichment, the facilities were already completely contaminated from earlier weapons production. Can you elaborate on why the commercial operations did not further add to the contamination of the facilities?

Answer. The basic hardware in the three GDPs was radioactively contaminated when enrichment operations for defense purposes began in the late 1940s and early 1950s. This was because a portion of the GDP feed at that time was reprocessed uranium from the defense fuel cycle. That uranium contained some radioactive materials that resulted in contamination of the processing equipment in the three

GDPs. For commercial uranium enrichment operations, that began in 1969, only natural uranium was used as feed in the U.S. plants.

Since the GDPs began operation, the volume of equipment in each plant that must be disposed of as LLW has not changed, and thus the government's total liability for D&D was unchanged when the plants were subsequently dedicated to commercial enrichment operations, 15-20 years after they were built. As I mentioned in my testimony, USEC's GDP lease, that was signed in 1993, reflects this fact, with USEC having no GDP D&D liability for either the Portsmouth or Paducah GDPs.

Question 3. You also note that the commercial pricing structure from the very beginning took into account the eventual D&D of the plants, as reflected in the United States Enrichment Corporation's lease. Could you please elaborate on that point?

Answer. DOE acknowledged that it had to decontaminate and decommission (D&D) the GDPs at the end of their useful life. The assumption when I was managing the program, was that D&D would be paid for out of annual revenues from the uranium enrichment program. That is, the cost of D&D would be expensed in the year that costs were incurred.

DOE later recognized that it needed to change this assumption when a government corporation, USEC, was formed. The utilities were charged for the D&D in the SWU price. However, the Government did not set up a special fund to hold the D&D funds, but rather used these funds for other purposes.

Question 4. What is your opinion of the payment from the Fund to owners of uranium and thorium mill tailing sites for their cleanup costs coming partially from funds contributed to the Fund by utilities?

Answer. US utilities should have no liability for these costs. There has never been a commercial thorium fuel cycle in the US, to my knowledge, with the vast majority of thorium being used for non nuclear industrial applications. Funds for uranium mine cleanup costs were to be set aside by the mining companies to pay for eventual cleanup of the properties and structures.

RESPONSES OF WESLEY P. WARREN TO QUESTIONS FROM SENATOR BINGAMAN

Question 1. Does NRDC advocate paying the utility assessment as long as the fund exists?

Answer. NRDC supports S. 2203—legislation to reauthorize the Department of Energy's (DOE) uranium enrichment Decommissioning and Decontamination (D&D) Fund established in the Energy Policy Act of 1992 (EPACT 1992), including extension of its cleanup fee on the nuclear power industry. Central features of any reauthorization should be that it adequately addresses issues of the sufficiency of funding to complete cleanup, the equitable distribution of costs between the taxpayer and the utility industry, and the well-being of the community.

Before the enactment of EPACT 1992, the DOE and the GAO both endorsed the concept that the costs of cleanup for the government's old enrichment plants should be split in proportion to the services that the beneficiaries had received from those plants. OMB under the first Bush administration proposed that this utility industry share be collected in the form of a fee. However, at the time the estimates for what the cleanup would eventually cost were quite uncertain, although the total amount of time was expected to take at least 40 years.

The agreement on the D&D Fund in EPACT 1992 contained certain key elements: (1) that the percentage of the fee that domestic utilities paid would be equal to the benefits they had historically received from the plants; (2) that the fee paid by the domestic utilities would be considered a necessary and reasonable fuel charge for ratemaking purposes; (3) that the National Academy of Sciences would conduct an assessment of how to reduce the costs of cleanup; and (4) that neither the taxpayer nor the utility industry would be subject to an open-end and uncapped obligation to pay for cleanup.

The cap that was eventually placed on taxpayers and the industry was a payment obligation for a 15-year period, not to exceed \$2.25 billion for the utilities. While there was not a determination in EPACT 1992 that utilities would never have to make another contribution, there was an understanding that they neither they nor the taxpayer should face an unlimited obligation until more information about the ultimate costs of cleanup were available. As with other elements of the agreement in EPACT 1992, this general approach is the right one to use as a model.

Thus NRDC supports extending the fee for a fixed period that is likely to be sufficient to pay for the cost of the cleanup, with a cap to be placed on utility and taxpayer contributions during that period equal to the proportional benefits that they received from the plants. S. 2203 follows this approach by extending the fee for 10 years. However, recent information from the DOE indicates that this period of may

not ensure sufficient contributions to the D&D Fund. Therefore Congress should consider a fixed period of time that is greater than 10 years if that is what is needed to ensure that payments to the Fund are sufficient.

Question 2. Your testimony indicates that the annual cap on contributions will be \$700 million with a utility contribution set at \$220 million—can you please explain this since the legislation calls out an indexed to inflation amount of \$150 million?

Answer. NRDC supports allocating the costs of the cleanup at DOE's old enrichment plants based on the proportion of past services the program provided to its beneficiaries—nuclear utilities and the taxpayer. The original contributions to the D&D Fund established in EPACT 1992 were based on this division of costs, with \$150 million allocated to utilities and \$330 million to the taxpayer for a total of \$480 million a year.

Another provision of EPACT 1992 indexed all of these figures to inflation. NRDC estimates that inflation from 1993-2008 would increase these figures about 46%. Therefore, the original authorization numbers in EPACT 1992 for annual contributions of \$150 million for the utility fee and \$480 million overall should be adjusted in 2008 to \$220 million and \$700 million respectively (and indexed to inflation thereafter).

These revised authorization figures estimated by NRDC are consistent with those specified in S. 2203. However, please note that S. 2203 explicitly sets the FY 2008 total authorized contribution to the D&D Fund at \$700 million but simply extends the utility fee at its current level, which would be \$150 million in 1992 dollars indexed to inflation to FY 2008 and beyond.

Question 3. Do you support the possible re-enrichment of the left over material or tails to help defray the costs? Won't running the tail back through the same plant further contaminate it and extend the date at which it shuts down?

Answer. NRDC supports the approach proposed in S. 2203 to study the financial, economic and environmental implications of re-enriching depleted uranium tails owned by the government. This assessment would provide better information than is currently available on issues such as the environmental consequences of re-enrichment activities at specific plants.

It is true that re-enriching depleted tails may lead to additional contamination at an existing enrichment facility and could extend the life of that plant. However, any additional contamination that might result should be the responsibility of the private sector entity doing the re-enrichment and should be included in the pricing of that product. It may also be the case that re-enrichment of depleted tails is actually environmentally preferable to the mining, transportation and processing of raw uranium to produce a feedstock for current enrichment activities. Finally, continuing the operation of the plant could be beneficial to the economic well-being of the surrounding community. Therefore, NRDC is open-minded on the subject of making government owned tails available for re-enrichment by the private sector.

Nevertheless, we feel it is important to note that any such decision needs to be guided by three fundamental principles. First, as a government asset these tails are really owned by the taxpayers, so any proceeds from the sale of these assets should be used to pay for a taxpayer need. This could include the taxpayer's share of the cost of cleaning up the old enrichment plants but must not include paying for the utilities share of the cleanup cost.

Second, if these depleted tails are made available to the private sector, it should be done in a way that does not draw the government back into the enrichment business, which was privatized as a result of EPACT 1992. The simplest way to achieve this would be to directly auction the depleted tails to the private sector in a way that permits the tails to be enriched by a private sector entity without liability to the government.

Finally, any plan for the re-enrichment of depleted tails must comply with all environmental laws, including the National Environmental Policy Act (NEPA). A full NEPA review would in fact provide a detailed answer to the question you have posed.

RESPONSES OF ROBIN M. NAZZARO TO QUESTIONS FROM SENATOR BINGAMAN

Question 1. It is my understanding that the DOE's report on the fund came in yesterday—has the GAO had time to review the report and assess whether the over all costs have changed since the last report?

Answer. Similar to our 2004 report, DOE's 2007 report to the Congress on the Uranium Decontamination and Decommissioning Fund (Fund) found that the Fund will be insufficient. While some of DOE's assumptions differed from those used in our analyses, DOE found, as we did, that the Fund would be insufficient under any

of the scenarios that it considered. For example, in developing our baseline model, we assumed that final decontamination and decommissioning (D&D) would occur between 2018 and 2032 at the Paducah plant. DOE's report assumes that Paducah D&D will start in 2017 and be complete in 2040. Although DOE's 2007 report states that cleanup and decontamination and decommissioning costs have been revised significantly, without a more in-depth review of the cost estimates DOE used to develop its report, we cannot determine how DOE's cost estimates changed or the reasons for any changes.

Question 2. All of the non-governmental witnesses have advocated either selling HEU into the market or re-enriching left over high assay material from prior enrichment operations, has the GAO looked at this issue and do they have any comment?

Answer. At the request of the Senate Committee on Energy and Natural Resources, the House Committee on Energy and Commerce, and the Chairman of the Subcommittee on Oversight and Investigations, House Committee on Energy and Commerce, we are currently examining DOE's options for beneficially re-using depleted uranium hexafluoride left over from prior uranium enrichment operations. Although our work is not yet completed and it is therefore premature to comment on our findings, we have briefed members of your staff on our work and expect to complete our review by the end of March 2008.

Question 3. Does GAO have any comment on the range of cost projections offered by the DOE in the latest report? Do you think they could go higher?

Answer. The scenarios used by DOE to develop the range of shortfalls reported in its 2007 report are similar to the baseline and alternative simulation models we developed to determine the sufficiency of the Fund. For example, similar to our 2004 report, DOE looked at the impact that delaying the final decontamination and decommissioning at the uranium enrichment plants would have on the Fund's sufficiency. Although DOE's analyses incorporated a range of economic factors, scope, and schedule assumptions, many of the uncertainties that we believed could impact the costs of cleanup have not yet been resolved. For example, in 2004, we reported that DOE cost estimates assumed that on-site disposal facilities will be built at Paducah and Portsmouth, but that if DOE cannot build these on-site facilities, waste disposal costs could increase substantially. In its 2007 report, DOE listed the construction of on-site disposal facilities at both Paducah and Portsmouth as key uncertainties associated with the cleanup of these plants. Until DOE resolves the uncertainties that we (and DOE) identified, we cannot determine the impact on the Fund's sufficiency. However, it is possible that additional demands could be placed on the Fund.

RESPONSES OF ROBIN M. NAZZARO TO QUESTIONS FROM SENATOR DOMENICI

Question 1. You stated that by 2044, there would be a shortfall in the Fund somewhere between roughly 3 to 6 billion dollars. What portion of your estimate of the total cost of the cleanup is attributable to annual remedial actions that have been taken or will be taken since the Fund was created in 1992?

Answer. Although we obtained DOE's remedial action cost estimates as a part of our review, we merged all of authorized cleanup cost estimates together when analyzing the extent to which the Fund would be sufficient. Because we developed a range of potential cost projections based on randomly selected values for such variables as interest rates, inflation rates, and cleanup costs, we cannot say specifically what portion of the projected shortfall might be attributable to remedial actions. However, according to DOE cost estimates, remedial action costs appear to be a relatively small portion of the total projected costs. For example, in 2004, DOE estimated that remedial action costs would represent about 21 percent of the total cleanup costs remaining at the Oak Ridge site where decontamination and decommissioning work is well underway. Similarly, one of the scenarios presented in DOE's 2007 report was its base case with remedial actions removed. Under this scenario, the Fund's projected shortfall declined by \$2.7 billion or about 25 percent of the \$10.9 billion projected shortfall under the base case scenario.

Question 2. Of the total amount that will be required to clean up the three sites, how much is attributable to enrichment activities that have or will be undertaken at the sites since 1992?

Answer. The objective of our work was to determine the extent to which the Fund would be sufficient and did not include an assessment of how much of the cleanup may be attributable to enrichment activities that have or will be undertaken at the uranium enrichment sites since 1992.

RESPONSE OF ROBIN M. NAZZARO TO QUESTION FROM SENATOR SALAZAR

Question 1. The hearing generated discussion of the possible future use of the Government's existing surplus uranium mine tailings. I would like a clearer picture of this resource and its history. Why have these tailings not been used to produce usable uranium? Please provide information regarding the size of this surplus and its legal status (i.e., under whose control it resides). Please also provide an estimate of the potential value of the tailings as compared to present U.S. share of the global uranium market.

Answer. DOE has almost 500,000 metric tons of uranium in the form of depleted uranium hexafluoride, the leftover "tails" remaining from the uranium enrichment process—a process that increases the concentration of the fissile uranium-235 isotope used in nuclear weapons and in nuclear reactors. This material is currently stored at DOE facilities near Piketon, Ohio, and Paducah, Kentucky. DOE has determined that about 78,000 metric tons of these tails have enough of the useful uranium-235 isotope remaining to make them potentially valuable, especially given recent increases in the price of uranium. This depleted uranium could be sent through the enrichment process again, re-enriching it for potential use as nuclear reactor fuel. At the request of the Senate Committee on Energy and Natural Resources, the House Committee on Energy and Commerce, and the Chairman of the Subcommittee on Oversight and Investigations, House Committee on Energy and Commerce, GAO is currently reviewing DOE's options for beneficially re-using depleted uranium hexafluoride left over from prior uranium enrichment operations. Our work is incomplete and it is therefore premature to provide an estimate of the potential value of these tails. We expect to complete our review by the end of March 2008.

RESPONSES OF JAMES A. RISPOLI TO QUESTIONS FROM SENATOR BINGAMAN

Question 1. It is my understanding that the clean up for the three plants will not end until 2044—why does the Department maintain that the industry assessment is not required at the end of the first 15 years?

Answer. The Department of Energy (the Department) has not yet taken a position as to whether the nuclear utilities should continue to pay into the Fund to complete the cleanup. The Department recognizes that there are several options to fund the cleanup of the three Gaseous Diffusion Plants, including continued assessments of the nuclear utilities. The Department is currently evaluating these options, as well as having further discussions with Congress and stakeholders, before formulating a recommendation.

Question 2. What are the ranges from worst to best case total costs on the clean up and why?

Answer. The best case is approximately a \$21.9 billion lifecycle cost estimate and the worst is \$33.6 billion, with a "Base Case" (as described in the Uranium Enrichment Decontamination & Decommissioning Fund 2007 Report to Congress) life cycle cost estimate of \$24.0 billion. The best case assumes that remedial actions would not be funded from the UED&D fund (but would have to be funded from a general fund appropriation). The worst case is based on future economic conditions (lower interest rates coupled with higher rates of inflation) that are far more pessimistic than recent history.

Question 3. What is the government's shortfall in contributions to the fund and how long will it take to make that up?

Answer. The government contribution shortfall is \$918.6 million. Since this shortfall occurred in the first three years of the fund, the amount of lost interest is an additional \$670.3 million for a total of about \$1.6 billion. The number of years required to make up the shortfall depends on annual appropriations made by the Congress.

Question 4. What is the Department's opinion of re-enriching high assay tails to help pay for the cost of clean up?

Answer. The Department is evaluating this option as part of developing a comprehensive Uranium Management Strategy.

Question 5. Is it true that under the current contract with the tails deconversion company they have an option to keep a percentage of the proceeds of the sale of the converted uranium?

Answer. The contract for the Design, Construction, and Operation of DUF6 Conversion Plants at the Portsmouth and Paducah sites with Uranium Disposition Services, LX, does not contain an "option" as such. but it does contain Clause li. 32 "Sale of Product or By-Product." Under this clause, the contractor may conduct sales for the Government and proceeds may offset allowable contract costs. Under this

clause there also is a possibility for the contractor to share, in certain limited circumstances, in “net acquisition savings” if such savings (a defined term) result from implementation of the Contractor’s proposal, which proposal must be approved by the Contracting Officer. The clause is very clear that a decision to accept or reject all or any part of the Contractor’s proposal is a unilateral decision of the Contracting Officer, and a rejection of the Contractor’s proposal provides no claim for lost opportunity cost against the Government. Lastly the Government reserved the right to use or otherwise dispose of any and all DUF6 and uranium products including disposition to third parties.

RESPONSES OF JAMES A. RISPOLI TO QUESTIONS FROM SENATOR DOMENICI

You noted that since establishment of the Fund, the Department has completed 116 of 231 planned environmental remedial actions.

Question 1a. How much was spent on these 116 remedial actions?

Answer. As of the end of FY 2006, the Department has spent \$1.5 billion and completed 116 of the 231 planned environmental remedial actions.

Question 1b. What percentage of the total amount spent from the Fund since its establishment does this represent?

Answer. As of the end of FY 2006, the Department has spent \$4.2 billion from the Fund, of which, 35 percent (\$1.5 billion) was spent towards environmental remedial actions at all three Gaseous Diffusion Plants (GDP). The balance of the funds was primarily spent on the major decontamination and decommissioning (D&D) activities at the Oak Ridge GDP.

Question 2a. The 1992 Energy Policy Act makes a distinction between decontamination and decommissioning costs and remedial action costs. It allows expenditures from the Fund for the annual cost of remedial actions to the extent the Fund is sufficient.

How does DOE interpret the provision to allow payment for remedial actions in light of its determination that the Fund is not sufficient to do all of the required D&D?

Answer. Since the establishment of the Fund in 1992, the Department and GAO have, on several occasions, estimated that the total cost for cleanup would most likely exceed the availability of funds as authorized over the 15 year period. Throughout this period, the Department has requested and Congress has approved the expense of remedial actions from the Fund. The Department estimates that the Fund will remain sufficient into the 2020 timeframe provided the Government makes up its shortfall in contributions including lost interest. The Department recommends that funding for remedial actions associated with the decontamination and decommissioning of the Gaseous Diffusion Plants (GDP) continue to come from the Fund, particularly since remedial actions remain to be performed beneath the facilities that are yet to be decontaminated and decommissioned.

Question 2b. How much of DOE’s estimated shortfall in the Fund is attributable to remedial actions?

Answer. Included in the estimated \$11 billion shortfall needed to complete clean-up of the three GDPs (per the “Base Case” in the Uranium Enrichment Decontamination & Decommissioning Fund 2007 Report to Congress) is an estimated \$2.33 billion in remedial actions that remain to be completed.

Question 3a. You stated that if payments to the Fund by the Government are authorized to “complete its obligation under EPLA 1992,” you project the Fund would remain sufficient until the 2020 timeframe. Are you referring only to a short-term reauthorization to capture the shortfalls in government payments during the first three years of the Fund?

Answer. Yes.

Question 3b. Are you saying, then, that assuming those additional payments, there would be enough in the Fund to allow you to complete all of the activities you have planned through 2020?

Answer. Yes. The Department has estimated that there would be enough money in the Fund through the approximate 2020 timeframe, provided that the Government contributes an additional \$1.8 billion including lost interest.

Question 3c. Is the Department’s position that the Fund should be reauthorized through 2010 to authorize Government contributions to the Fund as requested by Secretary Bodman in his letter of July, 2006?

Answer. Yes.

Question 4. Please provide an estimate of DOE’s annual cost to provide adequate safeguards to protect its stockpiles of uranium, uranium mill tailings, and HEU.

Answer. The estimate to provide adequate safeguards to protect the uranium, depleted uranium hexafluoride (DUF6), and highly enriched uranium (HEU) at the

Portsmouth (\$14 M) and Paducah (\$9M) site or approximately \$23 million annually. This figure however is the total site wide safeguards and security annual cost (FY 2007 dollars). Isolated pro-rata costs for individual materials or on site facilities safeguards and security are not available. In addition to the above EM costs, there are safeguards and security costs for uranium stockpiles managed by NNSA and NE.

RESPONSES OF JAMES A. RISPOLI TO QUESTIONS FROM SENATOR SALAZAR

Question 1. When will DOE provide cost estimates and plans for cleanup of the Paducah and Portsmouth enrichment plants and when will this information be shared with Congress and the GAO?

Answer. The Department provided the cost estimates and plans for clean up of these sites in the Uranium Enrichment Decontamination & Decommissioning Fund 2007 Report to Congress that was transmitted to Congress and the GAO on November 14, 2007.

Question 2. The hearing generated discussion of the possible future use of the Government's existing surplus uranium mine tailings. What barriers exist to the future use of this resource?

Answer. Uranium mine tailings are the residues of commercial uranium mining and milling operations which produced uranium oxides and have little or no economic value. However, the potential reuse and/or sale of depleted uranium hexafluoride (DUF6) tails was discussed at the hearing. DUF6, resulting from over 40 years of Gaseous Diffusion Plant (GDP) operations, has been stockpiled in large quantities at both the Portsmouth and Paducah GDPs. The Department is currently evaluating the cost effective re-use or sale of DUF6 tails.