

CONSENT-BASED SITING PUBLIC MEETING

University of Chicago, Gleacher Center

450 North Cityfront Plaza Drive

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FULL TRANSCRIPT

Mr. Jim Hamilton. Good afternoon and for those joining from earlier time zones joining via webinar, good morning. Welcome and thank you for being here today. My name is Jim Hamilton, I'm an advisor to the Department as part of their consent-based siting team and my role here today is to help us all have an open and productive conversation.

To start out, we have a few housekeeping and logistical issues to cover; and I'll run through those now. You should all have an information packet that you should have gotten when you showed up; does anyone not have one, because we can get you one. One person over there needs a packet; we'll get you one right away, sir. In this packet, you'll find a copy of today's agenda, speaker biographies, a contact sheet for further information, content for informational posters on the side there, sample themes for the small-group discussion—I'll explain that later—and an evaluation form, which looks like this, which we'd love for you to fill out at some time in the future. And for those on the webinar, all this information is also posted on the Department's website. You also should have a booklet that you got when you came in that the Department also produced recently about their consent-based siting program.

The Department would like to hear from you as to the design of the consent-based siting process for the management of nuclear waste facilities. To that end, we have designed the agenda today as follows, and you can follow through. Opening remarks by Professor Rosner; we'll then hear from Acting Assistant Secretary for the Office of Nuclear Energy, Mr. John Kotek, followed by four excellent panel members who will share their perspectives and thoughts; a question-and-answer session lasting 45 minutes; then a quick break. Following the break, there will be some facilitated small-group discussions to dig more deeply into the issues you heard about today—now I'll explain more about that later—a report about the small-group discussions will then follow, and then a public-comment period with closing remarks.

This meeting is being streamed live and a copy of this stream along with a transcript of today's meeting will soon be on the Department's website. We hope to cover a lot of ground today on this really interesting topic; and we look forward to your collective interest and participation.

Again, thank you all for being here on the web and in person; and without further ado I'll hand it over to Professor Rosner for opening remarks.

Opening Remarks

Professor Robert Rosner. [Applause]. Thank you very much. I must say that it really does give me great pleasure to be able to start off this very first open public meeting, outside Washington DC, that is focused on consent-based siting of facilities that can deal with the end-products of the civilian nuclear energy fuel cycle. Dealing with what's often called the back-end of the nuclear fuel cycle has proven to be a challenge, and not only in United States, but basically worldwide. Examples of how *not* to deal with nuclear waste are unfortunately not very hard to find. In our case, in the American case, the complex history of siting the presumptive repository of civilian nuclear waste, Yucca Mountain, illustrates many of the challenges faced by anyone charged with the problem of ultimate disposal of nuclear waste. And the fact remains that the plans originally outlined in the Nuclear Waste Act of 1982 are yet to be fulfilled.

Now it's my view that the recent Report of the Blue Ribbon Commission on America's Nuclear Future, which was issued in January of 2012, has laid out a path to get there that really does have a shot at success. Now why do I say that? I say that because there are now at least two examples in Scandinavia, and in our neighbor, Canada, where consent-based siting for nuclear waste repositories has taken place; they've successfully located sites of this sort and where such repositories are in fact now under construction.

Now you can ask: what are the key elements of consent-based siting in these two examples? The first one, I think is, perhaps most important, which is a completely open and transparent process. You can't emphasize that enough. Second, ensuring that the siting process itself is ultimately viewed by all the participants, all of the stakeholders, as a process which is viewed as a win by everyone involved. There shouldn't be any folks who view themselves as losers in this process; it's extremely important. And this means that the process needs to be structured in such a way that there's an actual competition *for* siting the repository. You want to find folks who actually want this, not folks who want to get out from under some edict. You don't want to have to relive the battles of siting that we've seen in the past.

Now what I'm particularly hoping for is that this meeting, the first meeting, here in Chicago, takes in fact the first step in a successful public discussion of how we can get there. So certainly I think everybody would agree that we need to deal with the already-generated nuclear waste, as well as the waste that has yet to be generated, and it certainly must be true that we have something to learn from our citizen-colleagues abroad how *they* were able to successfully deal with the siting process. But, I'm not going to be very surprised to learn that we here in the United States, here in Chicago, can come up with additional ideas, perhaps better ones, to finally deal effectively with the back-end. And I really wish the best for this meeting in this regard. So on this very optimistic note—I confess it's a bit optimistic—I give you John Kotek, Acting Assistant Secretary for the Office of Nuclear Energy at the Department of Energy. [Applause].

Mr. John Kotek. Great. Thank you very much and thank you all for being here today. Before I get started, several of you know the Secretary of Energy has a particularly personal interest in this issue having spent two years as a member of the Blue Ribbon Commission and then, of course, having worked previously in the Department of Energy in the 1990s. I served as Staff Director to that Commission, and as the doctor said, the report came out more than four years ago; time sure does fly! But it's good to be back here today to talk with you all a bit more about moving forward with a consent-based siting process

and hearing your input. But first, I think we're going to hear just a brief set of remarks from the Secretary so if we can go ahead and get that going.

Dr. Ernest Moniz, U.S. Secretary of Energy. [Recorded remarks]. Hello, and welcome. The meeting you're taking part in today represents an important step toward resolving a challenge I've been working on for many years. Back in 2010, before I became Secretary of Energy, President Obama and Secretary Chu asked me to serve on the Blue Ribbon Commission on America's Nuclear Future and tasked the Commission with a new plan for dealing with spent nuclear fuel and high-level radioactive waste. Currently, this material is stored on-site at reactors, or at DOE sites, both operating and shut-down, around the country. This system of managing this material is less secure and less permanent than either an interim storage facility or a geological repository. The effort to build the repository at Yucca Mountain made clear that building a repository in a community or state that did not agree to host one was not workable. With that in mind, the Commission set out a path that we hope will enable the United States to find locations where we can store and ultimately dispose of spent fuel and high-level waste securely and safely. Today, and at meetings occurring around the United States, we hope to hear from you about what a fair and open consent-based siting process should look like. Your input will be essential to get to the Department of Energy's future approach to seeking a community or communities that agreed to have a federal interim storage facility or repository in their area.

To be clear, the Department is not yet considering any particular locations for siting these facilities; rather, we are gathering feedback about how the process of locating such facilities should look going forward. That process will be important to removing spent fuel and high-level waste from on-site storage at nuclear plants and from DOE sites. Moving forward with a workable plan is also critical to ensuring that nuclear power remains an option for low-carbon electricity in the United States. I look forward to hearing from my colleagues about this meeting, and others occurring across the country. Again I want to thank you for coming out today to share your feedback about how a consent-based siting process should work.

Moving Forward with Consent-Based Siting

Mr. John Kotek. Great, ok, thank you all. So those of you who have not been working on this issue for years or decades might wonder why somebody from the U.S. Department of Energy is standing in front of you talking about this nuclear waste challenge. I thought maybe I'd start the discussion there.

Back in 1982 under the Nuclear Waste Policy Act, Congress assigned the duty to DOE for providing for disposal of both commercial spent fuel and for waste arising from DOE activities. Now we tend to lump those into the category of defense waste because a lot of the work the Department of Energy has done, and a lot of the waste that we've generated, have been associated with defense activities. For those of you who are not familiar with DOE, we are an agency with about a \$30 billion annual budget, a very broad set of responsibilities; while we're named the Department of Energy, actually one of the biggest jobs we have is maintenance of the nation's nuclear weapons stockpile and the stockpile and stewardship mission, but we're also a very, very large funder of basic science research as well as clean-energy research. So the office I head, the Nuclear Energy Office, has responsibility for both this waste program and for nuclear energy research development activities. We do the bulk of our work in DOE through a system of 17

national laboratories, two of which are here in the state of Illinois. The professor was Director of our Argonne National Laboratory; I'm a former national lab employee, and we also operate the Fermilab facility, the particle accelerator facility, out west of here. So DOE has a long history here in Illinois.

Illinois, of course, has a long history when it comes to nuclear technology and nuclear energy from the first controlled fission reaction at the University of Chicago, Chicago Pile, in the 1940s, to one of the early commercial reactors at Dresden; so there's a long history in the state of Illinois associated with nuclear technology.

I thought I would spend a little bit of time today, again, for those of you who might not be immersed; you might not live and breathe these issues day to day, I thought I'd start by just giving you a little context, a little bit of a framework for the discussion that is going to continue today.

So I mentioned the first nuclear reactor here; actually I now live in the state of Idaho, despite the fact that I work in DC, and Arco, Idaho was the first town in the U.S. lit by nuclear-generated electricity; so for more than 60 years we've been generating spent fuel and other nuclear wastes from nuclear technologies. Most of that material comes from our fleet of commercial nuclear power plants; we've got 99 reactors at I think 61 nuclear power plant sites around the country generating spent fuel at a rate of about 2,000 metric tons a year; the national inventory is about 75,000 metric tons right now.

There are also inventories of spent fuel stored at shut-down reactor sites around the country; we now have 14 of them, including one right here, Zion, Illinois, and we're going to hear from the mayor here shortly about the situation there.

So what is this stuff? Alright, so we talk about spent fuel and it's being stored at sites around the country; what is it, where did it come from, why is it a hazard. I thought I'd spend just a little bit of time talking about that again. For those who don't have a depth of experience on this issue: When we talk about nuclear waste, it's useful to talk in terms of the nuclear fuel cycle. I'll just walk you through that real quickly.

Of course, uranium is something that is mined out of the ground. It is milled or otherwise purified to separate the uranium from the rest of the ore. It then needs to be converted into a gas—uranium. When you dig it out of the ground, is about 99.3% of a particular isotope—a particular type of uranium called uranium-238. It's about $7/10^{\text{ths}}$ of 1% uranium-235. The uranium-235 is what you need for the reactors in the U.S. to drive the reaction that produces the energy, so you have to enrich the concentration of uranium-235 up to about 5% at some uranium enrichment facility and then the fuel is turned back into a solid or a ceramic, uranium oxide, cast into fuel pellets and then put into cladding tubes and then into a nuclear fuel assembly.

And we've got a model over here (if you didn't see it earlier) of what a commercial fuel assembly looks like. A typical assembly is 12 to 14 feet tall; I'm not sure that would fit in the room; we've got a 4-foot-tall version over here, but dimensionally on the sides it's to scale for a particular type of reactor we use here in the U.S. And depending on the reactor type, you'll have between 200 and 500 of those in a reactor core. And of course, the nuclear reactor is where we use this nuclear fuel to generate electricity. In the stages up to the fuel fabrication, putting the fuel into the reactor, the fuel is mildly radioactive, but you can

handle it without the need for radiation shielding; but after you've used the fuel in the nuclear reactor, that's when it becomes very hazardous and highly radioactive.

So what happens in a nuclear power plant is that the uranium that's in that fuel is caused to fission or split, and in the course of splitting it releases a large amount of energy which can be used to heat water, generate steam, and drive a turbine; so that's where the electricity comes from. But the smaller elements that are left over from the fissioning or splitting of the uranium; we call those fission products, and that's where you get highly radioactive stuff. Now also released in the course of the fission is a couple of neutrons, and they can go on to fission uranium atoms—that's where the chain reaction comes from; that you've heard about.

So now we're dealing with the spent fuel and the topic of today. The typical fuel assembly will stay in a reactor for something like 4 to 6 years. When it comes out it's both thermally very hot and radioactively very hot. It needs to be put into storage before it can be reprocessed (which is not something we do here in the U.S., but some other countries do it, so I include it here for completeness) and then ultimately for final disposition. When we talk about storing this material, I mentioned it's very hot when it comes out of the reactor and you need to keep it cool. As you can see from the fuel assembly itself, it's a pretty robust piece of hardware but what you don't want to have happen is—you don't want to have the fuel melt and that's what happened in the nuclear accident over at Fukushima; the fuel melted, you get fission products, you get radioactive material release, and that's when you get into trouble.

So you need to keep the fuel cool for roughly the first five years after it comes out of the reactor; you put it into wet storage; you put it into a water pool. And that keeps the fuel sufficiently cool; after about five years you can then move it into a dry storage configuration and what you're seeing is more and more of that in the nuclear power plants in the U.S.; the fuel pools are filled to capacity and so they're starting to move fuel into dry storage. Of the 75,000 metric tons of spent fuel from commercial reactors in the U.S., about two-thirds are in pools and about one-third is in dry storage right now, roughly speaking.

So that's the commercial fuel. And that's the biggest component of it. But you also have, as I mentioned earlier, waste left over from DOE activities; typically or predominantly defense activities but not entirely. The Naval propulsion program. Of course, aircraft carriers and submarines use nuclear reactors and there's spent fuel generated from that activity. Research and production reactors. We operate a series of research reactors around the country; fewer than in the past, but for example out at the Idaho National Lab there are still three in operation and that we use for various nuclear research. We also had reactors that were used to produce plutonium or tritium for the nuclear weapons program.

So you have waste associated with that and then from the actual weapons production operations themselves. So what you've got is a series of waste forms that have resulted from DOE activities. Spent fuel, glassified wastes and then other forms like calcine waste, which is a specific waste form that we have left over out in Idaho. So we have both spent fuel and the things that aren't spent fuel we call high-level waste. And those are materials that are all going to require long-term isolation from people and the environment. This stuff will be radioactive for millennia. And you need to ensure, again, that the materials are appropriately managed and that both people and the environment are protected from the radiation; now the radiation goes down over time, but it's still going to be many, many, many years where you are going to need to keep this material isolated.

So where is it? Well, as you can see from this map, mostly commercial reactor sites, predominantly in the East, I think it was mentioned earlier that Illinois has the most commercial reactor sites; also shut-down reactor sites, DOE sites sprinkled around the West, and a couple in the East. So we've got material stored in the majority of the states around the country that needs long-term safe storage and ultimately disposal.

So how did we get here? I mentioned earlier that the Congress assigned this role to the Department of Energy in the Nuclear Waste Policy Act of 1982. Actually, of course about what to do about waste management stretches back really to the early days of the Atomic Energy Commission and work on nuclear-related activities. And in 1957 in one of the seminal moments in nuclear waste management was a report by the National Academy of Sciences which looked at the disposal of nuclear waste on land and concluded that there were a variety of options that could work, and that pointed specifically to salt formations as a promising pathway so the Department of Energy headed down the road of looking at building a repository in salt through the 1960s. In 1970 they announced the selection of a site in Lyons, Kansas as a site for potential demonstration of the disposal of high-level wastes and low-level wastes; two years later, though, the Atomic Energy Commission canceled that project in the face of questions about the suitability of the site and opposition of the state. The Department of Energy's predecessor agency spent the decade of the 1970s; well, for the rest of the decade of the 1970s, looking at other formations and states around the country leading up to the passage of the Nuclear Waste Policy Act in 1982; the process of looking for sites was truncated by Congress in 1987 when Congress directed DOE to focus its efforts solely on the characterizing the Yucca Mountain site and then of course the application for Yucca Mountain was withdrawn back in 2009 and instead this Blue Ribbon Commission was formed to make recommendations about a new process going forward; that report came out as was mentioned earlier in January of 2012 and in January of 2013 the Administration put its strategy out built on the work of the Blue Ribbon Commission. In particular, pointing to the need for both storage facilities and deep geological repositories, and as you will hear later, we're looking at geological repositories both for the commercial waste but also specifically for defense waste as well; and for siting these facilities using a consent-based siting process.

Now, again as Dr. Rosner mentioned earlier, other nations have had success employing a consent-based siting process; we're not the first ones to go down this path; the example of Canada was mentioned. They are in the process now of working with communities that have expressed an interest in hosting a facility; I think they had 22 that expressed interest and they are working with eight or nine now. Sweden and Finland have both identified sites for repositories and Finland is actually in the process of construction and I think Sweden is in the process of review by their regulator. So we try to learn from those examples, both from the Blue Ribbon Commission Report and in the Administration strategy.

So where we want to go with that strategy is towards the development of an integrated waste management system; again, with components of consolidated interim storage facilities, starting with a pilot facility, but then working up to a larger-scale facility and then also repositories for both defense waste and for DOE waste with a well-constructed transportation system as a part of that. And though consent for disposal and storage facilities is something we're working towards, legal consent doesn't really apply to transportation but we understand that people and maybe some of the people in this room have a concern about shipments and so what we'll intend to do going forward is building on the experience we had working with states around the U.S. on shipments of transuranic wastes resulting from weapons production that don't meet the definitions of spent fuel or high-level waste. We went through an extensive process of working with states

and tribal governments to develop a system of transportation—including training, emergency preparedness exercises—to ensure that that transportation could be done safely and done well so coordinating with the states on development of transportation protocols, route selection, shipment inspection, emergency response, and in the unlikely event of an accident we're going to build on that experience as we go forward with developing a transportation system here for spent fuel and high-level wastes.

I mentioned disposal; ultimately this stuff needs to be isolated for millennia from people and the environment. The scientific consensus globally is that deep geological disposal is the way to go. As I mentioned we're looking at developing deep geologic disposal facilities both for defense wastes and for commercial spent fuel. The way we want to get there is again, as Dr. Rosner mentioned, is we want to work with communities that are interested in at least considering taking on this mission and considering potentially becoming what we call willing and informed hosts for facilities like this, so we want to work with local governments, communities, states, and tribes so we can ensure safe and secure operations and we can build and maintain trust and we can adapt our approach based on new information and changing circumstances.

So what you're going to see us doing over the course of the next 6 to 8 months is engaging in sessions like this to get input on what should be the elements of a consent-based siting process, what factors should be reflected as we develop that process; we'll design a process as a way to work with communities and use that process as we go forward and share information and again look for communities that are potentially interested in becoming willing and informed hosts.

So at the moment we posed a series of five questions; we did this and we're also doing it here and also through an invitation for public comment posted in the Federal Register asking questions like: How can we, DOE, ensure that this process of selecting the site is fair? What models and experience should we use in designing the process? Who should be involved in the process for selecting the site and what [should] their role be? What information and resources do you think would facilitate your participation? That's particularly one we are interested in hearing your input on; we want to make sure that the folks that are looking at this issue have the information that they need and then what else should be considered.

So we are looking forward to your input on that; as I mentioned, we've done that through meetings like this, the invitation for public comment, a few public webinars and conference calls and small group meetings trying to get input in a variety of ways.

Another thing we're hoping to do is be able to provide funding again to states, tribes, local governments and potentially others that are interested in studying this issue more; we have a funding request before Congress so the government fiscal year starts on October 1 and we have a request for fiscal [year] 2017 (which will start on October 1, 2016) in to Congress requesting about \$25 million to be able to issue a funding opportunity announcement and make these grants; we don't know how the Congress is going to treat that request but we've made it of the Congress so as I mentioned we'll use the input we get here to design a process and then we'll use that resulting process to work with potential host communities.

So that's what we're headed. And I can't thank you all enough for being here. Please provide us your input; provide it today, provide it through the website, through e-mail, and please also take the opportunity to get to know some of the folks who are working on this issue; in particular I'm going to

point out Andy Griffith who is over here. He's the person who runs this program for me day to day in the Energy Department, a great guy to get to know. We're trying to build a team that can do this job right and to do it right in the years to come. So thanks again for being here. [Applause].

Mr. Jim Hamilton. Thanks, John. So you've heard Professor Rosner and Mr. Kotek describe some of the exciting challenges and issues and opportunities as well as the whole integrated waste-management system. Personally, I'm tickled pink that we have four really great panelists who are going to share their perspectives on this issue of siting: What it looks and feels like; what should be considered; what's on the table and what's not. So I'm going to turn it over to them; we've got first off Al Hill, Mayor of the city of Zion, followed by Kim Wasserman-Nieto, from the Little Village Environmental Justice Organization; to her left is Commissioner Ann McCabe of the Illinois Commerce Commission and then wrapping it up is David Kraft from the Nuclear Energy Information Service. I'm not going to read you their bios as they are all in your information packet so we'll turn it over to Mayor Hill and we'll proceed down the line. Take it away, Mr. Mayor.

Perspectives on a Consent-Based Process

The Honorable Mayor Al Hill. I thank you. I am the mayor of Zion, Illinois. For those of you who don't know where Zion is, it is straight north of here on Lake Michigan, three miles south of the Wisconsin-Illinois border. We are a community of about 25,000 people with a decommissioned nuclear power plant in our city boundaries with spent fuel rods in dry-cask storage there.

The Zion Nuclear Power Plant was constructed between 1968 and 1973 and was licensed by the Nuclear Regulatory Commission in 1973 and began operation in 1974 and was shut down in 1998. In 1968 nuclear power was relatively new and this was going to be a generation source that would provide very cheap electricity. Zion was excited to be part of this and we cooperated completely with Commonwealth Edison. We thought it was good for our community and we thought it was good for the state of Illinois and we thought it was good for the United States.

At the time the people of Zion understood that locating the power plant within the community and along the shores of Lake Michigan would entail some costs. There was an understanding that the community would give up over 400 acres of lakefront and there was an understanding that there would be an eyesore on the lakefront that would be there for a long, long time and an understanding that recreational access to the lake for both visitors and our local residents would be extremely limited and we also understood that the economic development opportunities associated with the lakefront would be inhibited.

And these are the same economic developed opportunities that have been exploited by lakefront communities extending from Milwaukee to Chicago. In exchange for the cost, there was also an understanding that the community would benefit from locating the power plant here. There was an understanding that there would be a lot of jobs created, and I believe that at one point there were 800 jobs at the Zion plant and an understanding that each taxing body would receive significant tax dollars from the increased equalized assessed valuation of the plant and Commonwealth Edison, when the plant was operating, paid as much as \$19 million a year in tax dollars to our community for schools, parks and the city.

There was an understanding that when the operating license of the plant expired, that these 400 acres would be returned to pristine condition and the property would be returned to us for development purposes. That was the deal. It was an unwritten deal. But that was the deal that the people of Zion understood.

I would like to fast-forward to today. There was never an understanding that once the plant closed, the Zion community would play host to radioactive, and I'll be blunt here, a radioactive dump that contains 2.2 million pounds of spent fuel rods. 2.2 million pounds of spent fuel rods are sitting in our community. And the benefits that we had when the plant was operating are gone. There are no more jobs and there are no more tax dollars. Or very little tax dollars; I think they pay \$1.5 million to the entire community now. And that was not a part of the deal that we would be hosting these things.

I speak for all of Zion in saying that we do not want to be a storage facility for radioactive waste. So what are we to do? And our answer is that someone either needs to get the fuel rods out of there, or compensate the Zion community for becoming a de facto interim fuel storage facility. With Yucca Mountain scuttled in 2010 we're not naïve enough to believe that these rods are going to be moved any time soon.

We therefore believe that in the meantime, until they are moved, our community should be compensated and we also believe that the federal government should do the compensating. In 1982, the Congress enacted the Nuclear Waste Policy Act which was intended to begin the process of disposing of nuclear waste. As part of the Act, a small fee was added to electric bills intended to pay for the disposal of spent fuel at nuclear power plants; that fee was small, it was 1/10th of a cent for every kilowatt-hour generated at a nuclear plant, which totaled 15 to 20 cents for each electric bill throughout the country. You total up those tiny fees and you get a lot of money. By 2014, the fund had grown to over \$40 billion.

In 1982 the Nuclear Waste Policy Act contains a section entitled "Interim Storage Fund." The section references impact assistance, which says, and I am paraphrasing, the Secretary shall make annual payments to a state or an appropriate unit of local government, or both, in order to mitigate social and economic impacts occasioned by the establishment and subsequent operation of an interim storage capacity within the jurisdictional boundaries of such government. Impact assistance could be as high as \$15 per kilogram of spent fuel. And we have 2.2 million pounds so we have 1,000,000 kg in our community. Payments made available to the states and units of local government pursuant to this section shall be allocated in a fair and equitable manner with a priority to those states or units of local government suffering the most severe impacts.

I can't imagine any other units of local government located anywhere in the country that will suffer more severely than the Zion-area communities. We're talking about Lake Michigan, lakefront property that is valued at a fraction of its fair market value because of the 2.2 million pounds of radioactive waste stored on the shoreline. The Zion site can and should be freed of spent fuel so that it can be used for productive economic and social purposes. Zion has never been asked about, and never contemplated or consented to, converting the decommissioned site to an indefinite and long-term nuclear-waste storage facility. The intent of the 1982 federal legislation is clear: that communities will suffer social and economic impacts if they are designated as interim storage facilities and that they should be compensated. I know there's a discrepancy and disagreement about what interim storage facility means; but what the definition of interim is "in or for the intervening period; provisional or temporary." Whether anybody likes it or wants to admit it or not, Zion is an interim storage facility right now.

I would like to at this time formally request that the Department of Energy get with federal legislators and provide a mechanism to reimburse local communities for social and economic losses resulting from spent fuel rod storage within these communities. I would like to thank the DOE for first attempting to put together a consent-based siting process; as you can see, I'm not one of those people who wants to volunteer our community to be one of the sites. And second, for hosting this public meeting. I also want to thank Jim Hamilton for the invite to be here today. Thank you. [Applause].

Mr. Jim Hamilton. Thank you, Mayor Hill. Appreciate it. Now turning it over to Kim Wasserman-Nieto from the Little Village Environmental Justice Organization.

Ms. Kim Wasserman-Nieto (adjusts mic). Sorry about that—a little vertically challenged. Good afternoon. Again my name is Kim Wasserman, thank you very much for the opportunity to be here. I am the Organizing Director at the Little Village Environmental Justice Organization and I'm also the Chairwoman for the Illinois Environmental Justice Commission here in Illinois. I was very excited to be here; I will not lie, I was a little unsure of my role here given that our community worked for 12 years to shut down a coal power plant. A little different, but I think the lessons learned definitely replicate into a community that is dealing with nuclear power plants. And so kind of putting on both my hat as the Chair of the Environmental Justice Commission but also being a resident and working for an environmental justice organization in my community definitely made me want to lift up some very important things that we've heard both from the mayor today but also from the struggles that we find in frontline communities that are next to coal power plants.

And so a couple of things that I really want to raise up in reading through the material and hearing folks' conversation; definitely for us as an organization we have made our mark being very reactive, so we reacted to having a coal power plant in our community. Communities are reacting to having nuclear power plants or storage in theirs. As the mayor mentioned, I think a lot of times communities assumed a lot of things, thought a lot of things, through the process that they went through, but the reality is that an open and transparent process has to be more than just checking off a box on a checklist that says "Yes, we talked to the community." Right? What does that actually mean? Are things being written down? Are there actual action steps that communities have the right to and fully understand where their role is? Is there a framework for a community to understand all the points of insertion that they potentially may have, and what laws are there that they have to back them up?

I think in thinking about open and transparent processes a lot of times our communities are sold on the notion of jobs and economic benefit, right? It's a very good conversation to say that this is how many jobs will be created, this is what the tax base is going to be, but a lot of times our community, because we are so caught up in this conversation, because we may be economically distraught or for whatever any number of reasons, nobody ever wants to talk about the health impacts and the cost, the monetary cost of that associated with the other side. Right, so while the job cost is great and we know what that is, what's the health cost that comes out of that, what is the mental cost that comes out of that? As we heard the mayor of Zion say, for decades this community has had no access to the lakefront. What does that do to a community member who has no access, perhaps, to open space, or cannot appreciate or enjoy a walk down the lakefront? As Chicagoans, many of us have that luxury because organizations here fight tooth and nail to keep our parks space public, whatever your opinion on that is. They fight to keep it public

because it's our right to be able to access that. What does that say for the countless community members who don't have that access?

So definitely being crystal clear on what the economics are on both ends, but that also means that our communities need to access those resources; do we have access to the science, the economists, the land-use planners, the folks who are doing all the technical work for the company; are those resources being provided to the community? If they're not, they should be. In order for communities to be able to consent, they need to fully understand what all this means. If we can't afford technical assistance in our communities, how are we going to be able to understand the magnitude of paperwork and explanations and definitions that are being sold to our community?

Along with the economy of it as well we really have to lift up the cultural components that we have in our communities; not all communities are created equal. In some of our communities, our relationship with the land is an unspoken relationship that has no economic costs or cannot be written on paper. So are we understanding what the cultural components of peoples' relationships with their land is, aside from driving on it and living off of it? What else, how else, do they connect to Mother Earth?

And I think, finally recognizing truly, as environmental justice communities, we can't help but want to make sure that all the history that we have gone through is used as part of us moving forward, right? So if we're talking about processes and looking at what DOE has done in the past, there's definitely a lot of processes that people have been part of and parts that people have been part of, surveys that people have been part of, but if there is no real traction or teeth to their participation after a while, people are going to be like, "What am I participating in? Why am I participating?" And forgive my language, but "I'm going to get the crap participated out of me." So at what point does that actually become tangible work on the front-end? Where do actual community members get to see their work, with pen and paper signed off on, where they know again what their rights are?

And the last thing I'll say is that I think for us it will be very hard I think to find communities that will be willing; and I think the reality is that we really need to stop the creation of this waste to be able to avoid having to continue to have these conversations every couple of years while we're trying to figure out what we do, so the reality is until we stop creating this waste, we're going to continue to be in this space and, in the same space, and having the same conversation. So thank you very much for the opportunity, I greatly appreciate it. (Applause)

Mr. Jim Hamilton. Thank you very much, Kim. Now on to Commissioner Ann McCabe.

Commissioner Ms. Ann McCabe. Thank you. I appreciate DOE's invitation to speak today. I am here as the Chairman of a nuclear issues subcommittee for the National Association of Regulatory Utility Commissioners or NARUC. The success of the federal nuclear management program, paid for by consumers of electricity generated from the nation's nuclear power plants, is of great interest to me as a Commissioner at the Illinois Commerce Commission and to the rest of the state public utility commissions that are part of NARUC. State utility regulators have dedicated a tremendous amount of time and resources to ensure that electricity consumers receive the disposal services they have paid for through their utility rates.

Some Illinois specifics: Illinois is the largest generator of nuclear power in the United States. We have six operating nuclear plants with a total of 11 units. At the end of 2015, Illinois had over 9,100 metric tons of spent nuclear fuel stored at these sites. And at the decommissioned Zion plant. As of December, 2014, Illinois citizens had contributed \$2.3 billion to the Nuclear Waste Fund. NARUC's overarching position is that the Administration and the Nuclear Regulatory Commission should comply with the law passed in 2002 and complete the process to determine if Yucca Mountain can be licensed for waste disposal. NARUC believes the goal should be progress on a permanent repository; the interim site is by definition a temporary and not inexpensive measure to bridge the gap to a permanent repository, assuming it can be cost-justified.

NARUC, by resolution, which is how we set our policies, has suggested that some consolidated interim storage is needed, although the amount, basis of need, and duration should be determined.

One problem is how to handle the not uncommon occurrence of those near a proposed site supporting a license, while organizations and advocates, both outside and in that same state, lobby the governor and legislators to block any solution. Another problem is how to immunize the federal entities responsible for the nation's waste disposal program from political pressure.

Applicants seeking to build storage facilities need a target; that is, what level of state and local agreement is needed to define consent? The current DOE construct outlining consent is that affected communities have an opportunity to decide whether to accept facility siting decisions and retain significant local control. This definition is too general.

Some of my thoughts on the consent-based process: considerations for site selection; the level of support for the site in terms of state and local; what is the minimum level of consent needed; construction, operating and maintenance costs for the site (communities or states with a working reactor nearby or storage sites may be logical places to start); transportation costs to the site; transportation costs from the site to the permanent repository.

As far as participation and who should be involved: parties that have a legal standing; restricting participation to as few parties as legally allowed; the more participants, the more probability of consensus; and last, financial and technical assistance will help community participation, as Kim already said.

Back to the official NARUC position. We hope these meetings and comments help DOE establish more precise and useful definitions for the process. With respect to the issues before us today, DOE should not slow the progress on review of Yucca Mountain's license. Rate-payers should not bear additional costs unnecessarily just to shift the cost of interim storage from one federal billfold, the Judgment Fund, to another, the Nuclear Waste Fund. The Nuclear Waste Fund targets a permanent repository and that must be the ultimate goal of federal authorities. Thank you. [Applause].

Mr. Jim Hamilton. Thanks Ann. Our last panelist today is David Kraft from the Nuclear Energy Information Service. David?

Mr. David Kraft. Thank you. I appreciate the opportunity to make these remarks. NEIS is a 35 year-old organization. We are anti-nuclear, of course. But we are also advocates for a sustainable, renewable energy future based on carbon-free nuclear-free systems. And as I said, we're 34 years old; the very first

set of public comments we ever wrote dealt with the 1982 Nuclear Waste Policy Act, so we've been around the block on this issue for a long time. I would also point out that I served for five years on the Illinois Department of Nuclear Safety Citizens Advisory Group, which dealt with the unsuccessful siting of a low-level radioactive waste facility in Illinois from 1986 to 1991, roughly; and that process also was exploring the notion of consent-based siting, so we bring some experience and perspective to this discussion today.

I just want to articulate our four positions on radioactive waste because it will come back to what I want to conclude with at the end. Since the 1980s, as I mentioned, when we did our first testimony, we have been in favor of a permanent deep geologic repository as the nation's solution for the high-level radioactive waste spent fuel issue. In the meantime, though, in 2002 our organization participated with nearly 100 other environmental organizations to develop a set of principles on the management of spent nuclear fuel and high-level radioactive waste.

And one of our recommendations that we put together then was to create a system called HOSS, Hardened On-Site Storage, for the spent nuclear fuel. The idea there was that we have the ability to enhance safety and security using the available dry casks and it had been demonstrated to be successful in other countries. The other advantage to it, though, is that you don't need centralized interim storage, which would just contaminate new sites and introduce unnecessary transportation. Which is our third point. We believe you should only transport the waste once. And that is from where it is to where it's going to end up permanently.

And then finally, we've pointed this out repeatedly over the last 34 years, that the nuclear industry is not necessarily unique in this, but certainly violates the first cardinal rule of waste management in that you don't make more of it if you don't have a permanent disposal solution in operation, so these are the positions and perspectives that were bringing to the discussion here today.

I'm going to start off by urging the DOE to get its lawyer team revved up because in preparation for this, I looked up some legal definitions of what the term "consent" means and you can do this too. I don't have to bore you with all of the details, but I do have an outline version of my remarks here today, which do go into some detail on what "consent" means. It's a binding contract between parties but it's more than that. It's a power relationship that takes place and it's an agreement that's made unencumbered by coercion; it's a mutually-arrived-at position.

However, consent is not enough. I come from a community mental health background and the buzzword in our community back then is that you need "informed consent," which has a very specific legal definition. And I'm going to read that one to you because I think the DOE needs to keep it in mind as it moves forward. "Informed consent" is "assent to permit occurrence of an event that is based on a complete disclosure of the facts needed to make a decision intelligently, such as knowledge of the risks entailed or alternatives." And I think that Mayor Hill gave a great example of those precepts being violated from the get-go. We didn't have all the knowledge then and we still don't have all the knowledge now. We have no ability to tell a community when they will be relieved of their burden to take interim storage of waste. We don't know what technologies will be available. There a lot of unknowns. So that makes informed consent much more difficult in this case.

We were put up here, I think, to provide a context for how to move forward and I don't think you can move forward unless you take a look at the past. You know, those who don't understand history are doomed to repeat it. And quite frankly, from our 34-year experience dealing with government agencies like the Nuclear Regulatory Commission, the Department of Energy, and others it's a pretty sorry history that this process is going to have to overcome before you can expect communities to take you seriously.

Just a few examples: we talk about a binding agreement and a contract in a consent-based situation, yet the federal government has yet to come to a mutual satisfying agreement with the Western Shoshone tribe about the Yucca Mountain property; the Ruby Valley Treaty of 1863 was very clear; it's their land, yet as the Treaty being the law of the land, we can forget about it, because we have nuclear waste needs or we need a place to explode our atomic devices.

Several years later, we had the Skull Valley Goshutes being offered money to create something called private fuel storage to store 40,000 tons of spent fuel. This was an impoverished tribe that had a lot of beads, trinkets, shells and baubles dangled in front of them. The process ground to a halt and the site was never created, but I want to point that out that that could *never* have been consent because it was really a situation of duress. It was a situation of taking advantage of impoverished areas, which I think Kim touched on in her remarks.

I can go on and on in terms of this, but the bottom line here is that the agencies dealing with nuclear waste in this country have an enormous credibility gap. The public lacks confidence in everything that's gone on before; your history is very clear on how selective you are on what treaties, on what agreements you will keep and which ones you will break with or without consequence. That it's very hard to get a community to trust you and move into an informed consent dialogue under those circumstances.

Now I'm just going to go down a couple of some of the preconditions we think need to be in place moving forward and as I say, I'll be glad to discuss this and pass my comments to you in writing.

First and foremost, you fix the credibility gap. If you don't keep your word on previous agreements, treaties and contracts, first, don't expect any community to come forward and want to engage in a contract with you.

Second, compensate communities already affected by the nuclear contamination presence (and we have one of those sitting at our table here today with Mayor Hill). Zion is only one of many; there are 10,000 abandoned uranium mines across the United States that tribes like the Dineh have to deal with on a daily basis because it contaminates their drinking water and their livestock. Those are the kinds of agreements that have to be taken care of first before we go down this path of trying to persuade other communities to take more waste. We emphasize the notion of informed consent, yes, but bribery, duress and bait-and-switch, no.

We also have to emphasize that "no" needs to mean "no," and that later you can't come back and use Eminent Domain if you really are up against it, which is a possibility that could happen.

And finally, we have to put more effort into knowing the unknowable, addressing the fact that we really don't have all the answers on what to do with the permanent disposal of radioactive waste and probably don't have all the answers even for interim storage and the transportation of the waste.

We're doing a lot of checkbox exercises and meeting requirements and we wonder when the rubber hits the road how safe that's going to be for the United States. I would totally agree that we have to minimize the congressional political influence once a process is finally adopted. And also if you're going to enter into an agreement, parties are bound by that, and there need to be severe penalties for violating the agreement as we move forward on this, and there have to be penalties that are really meaningful to the parties involved.

So I'm going to stop there and I guess we're going to turn it over to the question-and-answer phase, but if you'd like a copy of these outline remarks, I'd be glad to give them to you. Thank you. [Applause].

Facilitated Public Discussion with Panelists

Mr. Jim Hamilton. Thank you very much David, and thank you very much to all panel members for your thoughtful perspectives. I think we all really appreciate it. A public service announcement. Those on the webinar, please mute your phones. We're getting a lot of reports of barking dogs and things in the background. So, take your phone, put it on mute, we'd love to have you participate, but I think we're getting a lot of feedback on the webinar folks.

Okay. Now I'm going to open the floor to questions and answers. From the audience to any panel member here. We have two wireless microphones and we've got runners, so raise your hand and you're going to get a mic and we'll take your question. I just want to note that those for watching on the web stream, we can't take questions today. The Department will, however, be hosting a webinar in the summer to allow those questions and answers to take place.

For those in the audience as we begin the question and answer period all I ask is that you use a mic; I have a booming voice, I don't need a mic; but trust me to allow it to be recorded we would like you to speak into the microphone and identify yourself by name and affiliation, if any. So without further ado, welcome.

Mr. Kevin Kamps. Hello, thank you. My name is Kevin Kamps and I serve as radioactive waste specialist at Beyond Nuclear also a board member for Don't Waste Michigan representing the West Michigan Chapter. And my question is to John Kotek. Is this a Department of Energy Nuclear—I'm sorry—a National Environmental Policy Act proceeding? And if so, were all of these comments just made officially recorded as official public comments. If not, why not?

Mr. John Kotek. This is not a NEPA proceeding; we don't have an ongoing NEPA activity.

Mr. Kevin Kamps. Why not?

Mr. John Kotek. We're starting to design a process; I don't think we're at the right point for that right now. I would be interested to hear more of your thoughts on why you think we would want to go down that road just yet.

Mr. Kevin Kamps. So the 30 minutes of public comment at the tail end of today, the written comments going into the various inboxes at DOE are not legally binding in any way?

Mr. John Kotek. What we're going to do at the end of the process is make comments public; we're going to publish a report that summarizes what we've heard and then also lays out a draft of a path forward for what a consent-based siting process will look like. So they'll be a reporting-back mechanism as part of this.

Mr. Kevin Kamps. If this is not a NEPA-compliant proceeding for high-level radioactive waste and a consent-based process, then what possibly would constitute a NEPA proceeding for the Department of Energy?

Mr. John Kotek. Well, I don't know where you're going with that but this is not one; again, we're here to get answers, people's input on the design of a consent-based... [Interrupted].

Mr. Kevin Kamps. It seems very much like this is a public relations exercise with no legal binding aspect to it, which we've been through many times before, and it seems like we're going through it again.

Mr. John Kotek. Okay. Thanks for that perspective.

Mr. John Hamilton. Thanks, Kevin. Another question?

Ms. Julie Samuels. Hello everybody, I'm Julie Samuels, I'm just a resident. I've been involved in environmental issues all my life, virtually since I was born in 1944, and I think that's when this all started. I have one question to Mr. Kotek. You mentioned to the point that nuclear waste would be processed and then it would be disposed of. So what I'd like to know is how is it processed, by what, how, when and where, what does it turn into, and then where does it go?

Mr. John Kotek. So the waste requiring processing is the high-level waste that we have, so for example, there is high-level waste in tanks at the Hanford site and the Savannah River site and in Idaho that are liquids that need to be solidified before you would dispose those, so there's a technology called vitrification that's being used on the Savanna River site and they plan on doing something similar up at the Hanford site; in Idaho there is a little different technology—they're trying to use a steam reforming technology there, but to solidify the waste prior to disposal.

For spent nuclear fuel—some other nations reprocess the fuel—they dissolve the fuel in an acid, extract uranium and plutonium that can be reused and then vitrify, solidify the rest of the waste. We don't do that here in the U.S. with commercial fuel, so I had mentioned that just as something that folks may have heard of that is used in other places but it's not something we do here in the U.S., so the thought with commercial fuel here is that that would just be direct disposed.

Ms. Julie Samuels. So you really don't know how to do that?

Mr. John Kotek. So we don't know how to do which?

Ms. Julie Samuels. So how to really create a substance that is not radioactive and can be disposed of safely?

Mr. John Kotek. Oh, it's certainly going to be radioactive. But we believe in the global scientific consensus that you can in fact safely dispose of this material in deep geological repositories. So that's what we intend to do.

Ms. Julie Samuels. Okay, so the stuff that's being produced here in Illinois isn't water-based, is it?

Mr. John Kotek. No, so if you take a look at the fuel assembly, the mockup over there that's in the corner, envision something roughly three times as tall, but that's the fuel that's then going into first, the pools and then into the dry storage containers, so it's very much a solid.

Ms. Julie Samuels. Okay. So in another words, this is horrible contamination forever. Thank you.

Mr. Jim Hamilton. Other questions? One right here.

Bonnie. My question is for Kim Wasserman. [She is interrupted by Mr. Jim Hamilton and reminded to provide her name.] I am Bonnie. And my question is: I would like to know how the residents of the Southside communities will feel about having thousands of truck loads and train carloads of radioactive waste coming through their communities, making them very vulnerable, within, I don't know, a mile or two of serious exposure to radioactivity.

Ms. Kim Wasserman. Absolutely. So that's one of the things that's bringing a lot of, I think, communities together around Chicago is the question of what's being transported on the rails around us. And folks understanding and seeing across the United States and across the world just incident after incident after incident of trail derailments. All kinds of transportation incidences, and given that we are a transportation hub in Chicago, it's a very big concern. There's a lot of organizing already happening on the tar sands crude oil front, I think this is only an extension; I think that this is why when we think about nuclear it can't just be the site itself, it's the lifecycle of it and what does that look like, and everything related to transportation, particularly, as Dave said, is very concerning and I think in order to keep communities the safest, transportation of it has to be minimal. It cannot be more than once. If even that.

So I think even the question of, even if a community isn't housing a nuclear site but if the transportation is going to go through their community, those communities have to be part of the conversation. At the end of the day, because Lord forbid anything happens to them, where will they be left out of the conversation. So part of this includes all the communities that are going to be impacted either through the transportation or in some capacity or another through this process.

Mr. Jim Hamilton. Did that answer your question?

Bonnie. Yes. I have one more part to that. Which is that I think that communities that are already at a disadvantage economically and culturally will have less resources and less ability to cope with the challenges of this kind of endeavor and so I'm particularly concerned about those communities like on the Southside and that's also a community that has a lot of rail, a lot of highways; I looked at a map of Chicago and we have; it looks like we have a lot of routes, and a lot of train tracks going through our communities, so I think the vast majority of Chicagoland that is in the suburbs, and I know I and my family live within a few blocks of I-94, which is a major hub, and I am very concerned from a public health standpoint about our highways being congested with these truckloads of waste going up and down.

And I don't feel safe; you can try to cover that up, however you want, but I don't think like people would be studying it; it's on the Internet, the Council of State Governments has written their reports for emergency response and also having been in situations where I've been a first responder after 9/11 as part of the Red Cross, and also at the receiving center for public health for people that were coming from the

Katrina disaster, I'm very concerned about any kind of plans that are made and I think we need to really, you know, be careful here. And I'd like to just know particularly about people that are at a disadvantage in these kind of communities.

Mr. John Kotek. If I could add one thing to that just to clarify. The way we envision moving material around is by rail, not by road, except as required to get to rail access. With respect to working with the state and communities, it really is the states that have the emergency preparedness and emergency response training along with tribes to the extent that tribal governments are impacted. We do work extensively with your state agencies so I would encourage you to the extent that you're interested in that, learning more; are you an Illinois resident? So work with the folks; there may be some people here in the room that will come up to you here during the break that work on emergency preparedness for rail transportation here in the state because this is an activity that goes on even now; there's not as much fuel being moved as we'll have to move when we get a repository open, but this kind of thing does happen now and it's worth talking to the folks about how they prepare for such events, but thanks for your comment.

Mr. Jim Hamilton. Other questions? One right here.

Ms. Gail Snyder. Good afternoon. My name is Gail Snyder and I serve as Board President of Nuclear Energy Information Service. And I'm wondering about this process that the Department of Energy is going through is really a process to evaluate and then make their sales pitch to Congress that this is what we should do with nuclear waste because the directive (as I understand it) is for a permanent geologic repository and that centralized interim storage, the concept of that is really coming out of the Blue Ribbon Commission and that's not really—as I understand it, maybe you can correct me—that's a congressional directive to move it in that direction. So the way this is kind of constructed even trying to get consent; it seems like this is what we're doing. This is what Congress wants us to do and there's no going back and looking at whether or not this is really something we want to do because it's just on the freight train to move forward. So if you can explain that.

Mr. John Kotek. Sure, and thanks for the comment. What we're doing in DOE is we're implementing the Administration's strategy which builds on the report of the Blue Ribbon Commission which you referenced. Congress did in fact in the Nuclear Waste Policy Act of 1987 direct us to just focus on construction of a repository; there have been proposals in the past also for construction of consolidated interim storage and so, for example, there was a Nuclear Waste Negotiator established under the Nuclear Waste Policy Act as well to look for communities that might want to host a consolidated storage facility, so that's long been envisioned at least as potentially a part of the nuclear waste management system.

The Blue Ribbon Commission certainly recommended consolidated storage as part of the system for a number of reasons, not the least of which is that we can begin to move fuel out of these communities that currently host shut-down plants; that can also help to reduce the federal liability; one of the things I didn't touch on in my talk earlier is that the federal government pays hundreds of millions of dollars a year right now out of something called the Judgment Fund because of the government's inability or failure to start receiving nuclear waste as required under the Nuclear Waste Policy Act of 1998. The liability to the government estimated for that failure runs into the tens of billions of dollars so there is a real economic reason, there's the reasons you've heard the mayor cite earlier about communities wanting to have access to land; there are several shut-down reactor sites around the country where literally all that's left is the

spent fuel storage. The reactor's gone; the turbine hall is gone, the administration building is gone, everything is gone, you could be in that position here in a couple years; okay, well we think it makes sense to consolidate that material into one location with the capabilities there to manage that material safely for the long-term. So that's something certainly that we have incorporated into our strategy.

How the Congress reacts to that, we will see; we've got it within our budget request to the Congress, we have a request for funding to move forward with implementation of this strategy and we'll see how they react.

Mr. David Kraft. I just wanted to add a little response to that too because you touched on a couple of things that I think are important. Again, it's the issue of how are the agencies going to overcome public perception is going to be a big piece of this. And while on the one hand you mentioned emergency preparedness and actually in Illinois we have a pretty good system set up with IEMA and the Illinois Department of Nuclear Safety; we have some representatives here today.

At the same time, the NRC is starting to argue that emergency response around those decommissioning reactor communities should be lessened. So there's kind of a mixed message going out publicly on the issue of emergency response. And somehow the agencies are going to have to get on the same page about that.

You also mention the Judgment Fund, the liability issue and that's significant, because it's economic. But organizations like ours have proposed alternatives to get around that so that it doesn't become the bogeyman that beats you over the head to drive you to a decision you don't want. For example, one thing that was brought up is the issue that a contract was violated, and again we're talking consent and contracts, and so that's why we have to pay into this Fund, these penalties, from the government, from the taxpayer.

Okay, so why don't we nationalize the spent fuel pads making them federal property, physically taking title of them, and then contracting out to the utilities and paying the utilities to manage them safely. It totally terminates the whole issue of liability because now you fulfilled your obligations under the Act. You know, this was brought up years ago by many organizations like mine. We brought up the issue of HOSS in the year 2002; the NRC rejected it; the industry rejected it. So that's been the pattern and the history. Alternatives have been suggested and have been rebuffed repeatedly, and the DOE is now coming forward with a process saying Trust us. Consent. You've got a problem there.

Mr. Jim Hamilton. I've got Professor Rosner first, and then I've got somebody in the back there who hasn't spoken yet, so we're going to go to her after Professor Rosner.

Professor Robert Rosner. I just wanted to make a comment about the issue of pointing fingers. One of the complications of the Nuclear Waste Policy Act of 1982 is that the way the Waste Fund was set up is that it's part of the funds that are received from the fee that we heard about earlier; it's part of the general revenue stream. What that means is that in order for DOE, for example, to touch money from the Waste Fund, it actually needs congressional approval. That money is "scored" (technically, in political speak); it is "scored" as part of the revenue stream and also the deficit. And what that means is that you immediately have political interference.

One of the conveniences, it turns out, of the Judgment Fund is that the Judgment Fund is not subject to the appropriations process. Now from everybody's point of view who is actually involved in these transactions there's actually a benefit to using the Judgment Fund as a source of money because you don't have political interference. And that in fact is sort of a handicap in the way the Waste Act was originally formulated; it was formulated so that right from the get-go you were guaranteed to have political interference in the way the money was spent from the Waste Fund. And that was probably a mistake.

Mr. Jim Hamilton. Thank you, Professor Rosner. I've got a question in the back.

Ms. Pat Walter. Sorry, I'm not used to using a microphone. My name is Pat Walter; I'm a member of the Citizens Act to Protect Our Water. I have two suggestions and two questions. The suggestion is that you have experts at any of these meetings; I was at a recent meeting at Zion and all we had was basically somebody who sounded like a general contractor that tried to explain what was happening with the decommissioning in Zion. And one of the things that came up there was a question that I was asking was about the water and yes there is water that comes out of the waste plant, so water is impacted and from what I was told later on after the meeting there is something called tritium that goes into the water; so yes, our lakes which are representing 20% of all the fresh water on the planet are being impacted by nuclear waste and the nuclear plants. So one of my suggestions is to include proper experts at all meetings. Especially when you're working on a decommissioning of a plant and if Zion is the first one in the United States. You must have better representatives.

The second thing is that another question is that you must work with the railroads. Galena Illinois had a bomb train. I had a train that could have been a bomb train a half mile from my house; two people were killed when the train collapsed on whatever the chemicals on the roads in Galena Illinois are called. So trains are problems. They're not built for people, they're not built for sensitive cargo, so I really, really hope that your agencies are going to work with whoever is in charge of the railroads because if you're putting anything sensitive on them, we have to be extra, extra careful.

So my final suggestion is that to have a citizens committee such as they've had throughout the country if you're going to involve a variety of components or you've got citizens, you've got different states, for example; we're right next to Indiana, Wisconsin; we've got Wisconsin right now that is one of the cities there is trying to ask for access to Lake Michigan water. A lot of these are interdepartmental and they are interstate; folks have to work together.

So I guess what I'm asking for is number one to make sure that any future Zion meetings include a lot more people, and that the committee continues for the full life of anything that is on that site. Because right now I was told that the committee up there is going to be disbanded when the private company leaves. So thank you very much for having this meeting. Thank you. Goodbye.

Mr. Jim Hamilton. Thank you. Do you want to pick that up, John, or does the mayor?

Mr. John Kotek. We, the Energy Department, don't have responsibility for the Zion project, but I can certainly pass that message along to folks that do, and Mr. Mayor you are probably in an even better position to let folks know. But thank you.

The Honorable Mayor Al Hill. And if I could address that a little bit. We also have a problem trying to figure out where we get our answers. We've been dealing with Exelon and Commonwealth Edison for

years on issues at the power plant when it was operating and now with the storage, and their response to us is that there is a contract that was broken between the federal government and Exelon, and Exelon has no responsibility to Zion right now except to keep them safe.

When we talk to federal representatives there are definitions and there are contracts that are written that we were not part of, didn't know anything about, and one of the issues that we're talking about is what is the definition of an "interim storage facility." They have one definition, and we obviously have another. So those are issues, and I guess my recommendation is—and there's a representative here from Congressman Dold's office—and they've been very helpful with us; is that rather than looking at what we *have* in some of these agreements, we need to figure out what do we have to *change* in the legislation and we need to be creative and our legislators and our friends at the Department of Energy need to get together and be creative and come up with some different solutions and not go back and look at the old things. We need to be thinking forward on how we can solve some of the problems and I'm not suggesting that you're not doing that, but I would encourage you to do it much faster.

Mr. John Kotek. And one last point to your comment about experts. So when this is done, we are going to have a little poster session at the end. I actually do have a series of experts sprinkled around the room who can talk to the issues that we're here to talk about in terms of storage, transportation and disposal of waste. If you find that my experts are not up to snuff, let me know, and I'll get new ones. [Laughter]. Thank you.

Mr. Jim Hamilton. Thank you. I've got one; actually, you have already spoken, so somebody who hasn't spoken yet; if it's okay, if I give it to her, and then we'll come back to you? Thank you.

Ms. Kathleen Roude. Thank you, my name is Kathleen Roude. The understanding or the basis behind this conversation of consent-based siting is the idea that going out into communities and explaining to them exactly what we're looking for; how we have this highly radioactive waste that is going to be deadly for thousands and thousands of years, we'd like to host it here. And the more information that they know about it—at some point some community is actually going to say that yes, we want that here. My guess is that for everyone on the panel and everyone in this room, I doubt that any of us would say, "Hey, bring it to my neighborhood!" And I'd like to know if anyone here in this room would be saying "Yes, let's bring that to my neighborhood!" So I'm really curious as to why any community would want to have a facility here if they really understand exactly what's being asked of them.

Mr. John Kotek. Thanks for the comment. What you find I think around the country, and certainly where I lived, so I lived in Idaho Falls Idaho, which is home to the Idaho National laboratory, that's actually a community that a few years ago sent a letter to our governor saying, hey we'd like to potentially look at this. We've got communities in the Southwest right now, one in New Mexico, one in Texas, that have even before we've been out looking for volunteers, they've said we're interested in hosting facilities for storage.

I mentioned earlier [Question shouted from audience: "Why?"] Why? I think they're familiar with the technology; one of the communities in southeastern New Mexico hosts something called the Waste Isolation Pilot Plant and they actually championed the construction of that facility there over a period of 25 years. So they're familiar with nuclear waste disposal operations. I mentioned the situation in Canada. They went out, they looked for volunteer communities—not saying "Hey, you need to sign up on day

one," but communities that were interested in learning more in participating in the process. They either had 21 or 22; they actually had to terminate their window. They had more than enough to deal with. So I wouldn't expect every community in the United States to step forward and be interested in this, but you don't need every community to do that, you need... [Interrupted].

Ms. Kathleen Roude. Are these communities that have a strong economic basis, or are these poor communities, and what are they being promised? What are they being—there's got to be some reason, because [interrupted]

Mr. John Kotek. We haven't promised anything; we're not in that stage of negotiation. What I can tell you about the two that are well-documented, that have stepped forward, again the one in southeastern New Mexico hosts the Waste Isolation Pilot Plant, so they're familiar with nuclear waste disposal operations, and then the one in West Texas hosts something called the WCS, the Waste Control Specialists, a waste disposal facility, near, I think it's near Andrews, Texas. And so again, those are communities that have some experience with this type of work and are interested in potentially taking some more on. I'm optimistic that through this process we will identify other communities that are interested, not saying yes on day one, but in learning more potentially playing a role either for a storage or disposal facility or both.

Mr. David Kraft. So you're saying that the folks in Carlsbad and at WIPP *now* are saying that they would be interested?

Mr. John Kotek. Yes.

Mr. David Kraft. The reason I asked that is because in our packet where we were given materials to prepare, there's an article called "Consent-Based Siting, What Have We Learned?" It's from *Radwaste Solutions* in 2013. And they do talk about the WIPP facility, but one of the paragraphs caught my eye in reading it because it's 2016 now and not 2013, and the passage is "the passage of the WIPP Land Withdrawal Act in 1992 resolved many conflicts," and they go on explaining what those were. A second National Academy of Sciences study concluded that unless the site is breached by humans sometime in the future, there is no credible probable mechanism for release of radioactive material into the surrounding environment. And I wonder how they feel about that now after the kitty litter episode where they burped plutonium into the community.

Mr. John Kotek. All I can tell you is that I was on a panel two weeks ago with the representative of Eddie Lea County Alliance in southeastern New Mexico and they're still interested.

Mr. David Kraft. Okay.

Mr. Jim Hamilton. Could I ask Kim to sort of weigh in here a little bit on this; we're talking about communities and self-determination and their rights and access to information; would you want to weigh in one way on this?

Ms. Kim Wasserman-Nieto. So I can't speak for any one community, because I don't, but I think in our neighborhood, you know what we're seeing is in our case we shut down a coal power plant. Folks understood air-quality issues, they understood why that was important, and now two things are happening in our community. One is our land is being looked at for higher value, right? Because we cleaned up the

air, we built a new park, we got better public transportation, so we're being displaced by the work that we did and there is a huge influx now of diesel in our community, right? We're being highlighted for logistics and transportation, right?

And so automatically the city came to us and said look, transportation jobs for everybody, this is going to be great. And folks took the lessons learned from the coal power plant and said wait a minute. Let's talk about what's coming out of the diesel emissions. Let's talk about the quality of jobs. Are we talking temp jobs, or are we talking union-paid jobs? Are we talking local hiring for the first year, or for the life of your business? We have a huge flooding problem in the neighborhood; are you thinking about green infrastructure?

So very much the narrative they originally thought that they were going to come in and sell us with very rapidly was turned back around to say "No, we've been down that road. We've learned, as a community," right? And hopefully in those cases communities are learning as well to say that we're not going to fall for the pretty pictures and the questions; we're good to start and push back and ask questions and I would hope that any community, if empowered to have the technical expertise, the lawyers, the scientists, to explain information, can come back and say "We have a list of concerns and questions about consent-based or about these things before we even can go down the path of saying yes, we want this in our neighborhood."

So I think it's really, one, to ensure that folks are giving communities the toolboxes and the opportunities and the investments they need to come to strong self-determining places and make decisions, but at the same time the communities aren't just being sold out on the question of jobs; that local CDCs, community development corporations, government officials, health officials, planning folks, workers, everybody and their mom has a space to lift up and talk about what their concerns are and that those concerns aren't just placid and they say, "Okay, oh yeah, yeah we heard you, great, thank you, we got it on documentation, great, thank you" but no, but there's really a place where then folks have to come back and say "We heard you on here and here, and here's what we can do, and here's what we are willing to do, and here's how we can change."

Mr. John Koteck. I think that was excellent; it really feeds into what we're trying to do. The way I personally look at it is that any community that's going to be willing to take this on is going to have to be able to answer two sort of threshold questions.

One, can this be done in a way that is protective of people and the environment and then, second, if the answer to the first one is "yes" in the view of that community and that state or that tribe, then can we do this in a way that our community is better off for having taken this on? And that can mean a lot of things, right? And maybe that means the stage where the community wants some sort of regulatory role; they want some sort of role in the management or oversight of the operation. They want to see job creation and educational opportunities, etc. There's a full range of things and part of the reason we have requested this \$25 million for grants for next year is so that communities don't just take from us, but go off and get their own experts and study these issues on their own, and I think this is an essential part of getting to the point where a community can be a willing and informed host.

Mr. Jim Hamilton. Kim, do you want to follow up on that?

Ms. Kim Wasserman-Nieto. I just want to flag too though that I think that there has to be very clear clarity on kind of who experts are, right? And what they're going to sell you on, expert-wise, right? Because I can be an expert where I want to sell you something and I can only give you limited information, but I can also raise a flag about what we mean when we talk about who experts are and the viewpoint that they bring.

Mr. David Kraft. If I could share from experience. When the Illinois Department of Nuclear Safety was trying to site a low-level radioactive waste dump, it actually did provide a fund for expert testimony and witnesses, which community groups and anyone could apply for. I think there was the ceiling of \$5,000 or something. Then you needed advice as to how you'd pick your experts, and that's a whole other issue. But the point was that it was totally independent, it was available, and utilized. And it seemed to be pretty successful.

Mr. Jim Hamilton. Thanks, Dave. So we got a conversation right now; it's kind of honing in on experts, community choice, resources; those sorts of things. Is there a follow-on question to that? Or do you want to go off on something else? You've got your hand...how do I resolve, so...okay, how about you first? And then, I'm sorry. So how do we do this? She's got it? All right. You get the prize.

Ms. Jan Boudart. I'm Jan Boudart and I'm a member of the Nuclear Energy Information Service. This conversation has raised so many issues with me I just have a hard time picking one.

On the subject of experts, I will only say that there was a nuclear expert named Szilard who became an expert on smoking and he was a person who promoted what is called the Merchants of Doubt and he was not really an expert in the field that he was given credit for, although he was a world-famous physicist. And he promoted smoking.

The first thing I have to say is that no complete disclosure is possible because the nuclear waste lasts for 100,000 years if you consider the half-life of plutonium, and if you follow the 10 half-lives idea, some people say 20 half-lives, but some people only say 10. And if you go by 10, then this stuff lasts for 100,000 years and the United States is something like 250 years old or 300 years old, so it's idiotic to even say that we're giving people complete disclosure because we're all going to have progeny that are going to have to live with these problems.

And I wanted to say something about Carlsbad, because I have some place if I could just find it, the testimony of a man who lived in Carlsbad, when Carlsbad had a really vibrant tourist economy and it was surviving and doing well until the problems with WIPP came along and the community that this particular person lived in has really been devastated by the problems that were presented by WIPP. And especially after the accident at WIPP. And now even though it's against, theoretically against the law, there is fracking being contemplated and/or carried out within a mile of the WIPP facility and this was supposed to have been illegal, but somehow or other companies have a way of getting around the law to do this, whatever they want.

And so then another thing that really impressed me was when Pat said "oh there's 'something called tritium.'" Well, it's not "something called tritium;" it's a radioactive isotope of hydrogen that is incorporated into regular water and it is very dangerous when it is ingested.

And it is very—you'll have to forgive me for going off the envelope here—but it's very irritating to me to see what's happening to the school system in Chicago in particular but the United States in general, where we're not educating people so that they will understand what tritium is. And I know people who don't even know what an isotope is. And this is very, very annoying. So I feel that by shorting our education system, we're setting people up for consent because they don't know what they're getting into, because they don't understand the physics and chemistry behind it and they don't have friends and relatives who might be more interested in STEM who could explain it to them or who could speak for them. If we're not going to educate our communities and then we're going to ask for their consent, what we're doing is just simply pulling wool over their eyes, and we have to start with fixing and implementing and supporting and loving the education system.

Mr. Jim Hamilton. Thank you very much. [Applause]. Do you want say something about that John?

Mr. John Kotek. As an engineer, I certainly agree with your emphasis on STEM. Frankly I'm a University of Illinois-trained nuclear engineering graduate, so a little bit to the state of Illinois for the fine institution available you built here and I think you're right; I think that sort of understanding of the hazards; you mentioned people not understanding isotopes or understanding radiation; that's an important part I think of understanding our modern world and should be part of our curriculum in the U.S. and the public school system. The statement you made about fracking within a mile of WIPP; I hadn't heard that. I will certainly talk to my colleagues who have responsibility for that project to find out what that—what's going on with that. That's not something that I'd heard before. And I'll just say that your comment about the tourism trade in Carlsbad and suffering since WIPP—I've not heard that from folks down there in Carlsbad; one of the folks we see fairly regularly is a former state representative from down there and I'll ask him if that's something that he's seeing.

Mr. Jim Hamilton. Alright. Thanks. There we go. Thanks for your patience.

[No name provided for audience member.] This is a question for Mr. Kotek. In your slide where you are showing the nuclear fuel chain, you also included reprocessing spent fuel and you explained we're not doing that here, but as I understand it, our national labs do work on the idea of reprocessing, so a number of us are concerned about the potential for locating spent fuel in four or five places maybe around the country, and then turning those sites into reprocessing facilities, eventually; so I think that's something that communities that are considering this need to understand that technologies that maybe are not perfected or maybe don't even exist now could change really radically the character and the intended purpose of the original intended purpose for the site. So could you talk about reprocessing and how that could potentially impact this?

Mr. John Kotek. So you are quite right. We certainly have research going on within my organization, within the DOE national lab system, including Argonne National Lab, looking at future nuclear fuel cycles. Are there ways of better managing the waste that we generate now? Potentially reusing some of the reusable elements and isotopes in the fuel—not something we do now; we're focused on the long-term, probably tied to the next generation of reactors that employ different technology than we use today. There's no guarantee we'll ever get there, but it's a sufficiently intriguing scientific possibility that we spent some time and effort looking at it.

Certainly not something that we have envisioned as part of our strategy if you look at the Department of Energy strategy document you'll see that's not the intended purpose for consolidated storage facilities; it's simply there to be a more efficient way of managing fuel that we have before it goes into a deep geological repository.

Mr. Jim Hamilton. Okay, David, then Kevin and then one over here. Thank you.

Mr. David Kraft. Well I'm going to ask John a question, but I want to ask the audience a question before. How many folks here are sociologists, social psychologists, geographers, demographers? Oh, come on! One? Two.

Mr. Jim Hamilton: I count three or four.

Mr. David Kraft. Okay, great. Well it just tripled. The reason I'm asking is that I'm going back again to the experience we had in Illinois on consent-based siting for the low-level dump. One of the things I tried to interject into the discussion then is the contract is bigger than just, you know, we need your land, we're going to give you these things—jobs and whatever—and we agree.

And I think this gets back to the situation at Zion in a sense. It's bigger than that, and I would like DOE to take some time and examine the notion that a consent community that ultimately takes a facility also has an obligation. And the obligation is not just to the community for the jobs and economics and the stuff there, they have an obligation to the nation to take some of the most intensely deadly material ever produced in our infrastructure. And if they screw up, the whole nation suffers.

So I bring that up in the context of what happens when you create a community like this, and how does the DOE or other agencies deal with the unfortunate side effects of company towns. For example, you have a certain workforce. Will they be as inclined to report safety issues if they see that whistleblowers around the country are being persecuted or if that it would have a negative economic impact on the community? So there is a real issue there of how safe is safe in a company town that is suddenly taking on the nation's responsibility for disposal or even storage of high-level radioactive waste.

And that's where the social sciences come in, and that's why I asked you folks, you know, "What's your background?" because that always happens at these conferences. That is an aspect of community that seems to be totally ignored.

Mr. Jim Hamilton. All right.

Mr. John Kotek. Certainly the social science aspects of what we're doing here are extraordinarily important; it's a capability where we've got a few folks on our team that have that background; frankly that's an area we need to expand some, because we've found that in the U.S. this is not so much a technological challenge, although the technology is certainly challenging, and you have to make sure you get that right, but we think in the U.S. and other countries that we've demonstrated that can be done safely; it's a sociopolitical challenge, principally.

Your point about ensuring safety, and communities and states taking on issues of national importance and taking on a big safety responsibility: absolutely. We have that today, we've got national labs, and installations that are responsible for nuclear weapons management or for radiological or biological or

chemical weapons research or destruction and what have you, and we've got communities and installations that take on those sorts of challenges for the nation now. And we'll need to ensure that whatever community or communities take on this challenge are up to the task.

The Honorable Mayor Al Hill. If I can follow up on that. It's interesting in our community that we've talked with Exelon on numerous occasions about the safety of having the storage on the lakefront, and particularly on the lakefront, but also in our community. And they assure us over and over and over again that nothing can happen. These are absolutely safe. Nothing can happen.

Our question to them is: Why do you have armed guards, in a bunker, 24 hours a day, seven days a week, if nothing can happen? And they say "Well, you know, if somebody decided," well that to me—that's something happening! And they don't recognize that, and they don't think that that has to be addressed and I don't mean to be, well I do probably mean to be, but they don't; the people that are guarding this are not the best and the brightest. They're not making \$40 an hour. And that's frightening also. And I think that if you're going to get into the consent-based siting that you have to ensure that there needs to be a standard on who's guarding these things.

Mr. Jim Hamilton. Thank you Mr. Mayor. It's 2:42 PM. I've got time for two more questions. So I've got Kevin and I've got right there, and then we're going to wrap it up. Are we good? All right.

Mr. Kevin Kamps. Hello, Kevin Kamps, Beyond Nuclear and Don't Waste Michigan. And this is again directed at John Kotek. So during your introductory presentation you listed Canada as a consent-based siting model to follow and our organization is being deeply engaged in the Canadian situation, I have to ask you for a correction on the record.

The deep geological repository for high-level radioactive waste is very much in the infancy stage, but there is a proceeding, a *proceeding*, a preceding proceeding, the low- and intermediate-level radioactive waste, DGR, so-called, targeted at the Bruce Nuclear Generating Station in Tiverton which is very much indefinitely suspended right now because of the controversy that extends to here. The city of Chicago, all the counties around here, have passed resolutions opposing the DGR for low- and intermediate-level radioactive waste on the Lake Huron shoreline for good reason and the Canadian Environment Minister at the federal level has just suspended the proceeding effectively, requesting additional information from the proponent, Ontario Power Generation; for one thing, the cumulative impacts of the low and intermediate dump being just down the road from the proposed high-level dump, and you mentioned 22 communities now whittled down to nine; three of those are in the immediate vicinity of the Deep Geological Repository 1 and there are so many proposed on the shoreline there that we have to give them numbers.

So it's a highly contentious issue; highly controversial groups like Save our Saugeen Shores and Stop the Great Lakes Nuclear Dump have sprung up in those neighboring communities to say no for years now. So if that's your model for consent-based siting, how about the non-consent from 23 million people in the Great Lakes Basin to these proposals? Why didn't you mention that?

Mr. John Kotek. What I was referring to, of course, was the fact that they started a process through which they were trying to identify willing and informed host communities; that was the point of the discussion. And so of course, as I mentioned earlier, they've had 21 or 22 communities come forward and express interest in hosting a deep geological repository and I understand that Ontario Power Generation, a

different organization, is behind this other proposal, which I didn't discuss; it's not a spent fuel repository and that's what we're here to talk about. I appreciate your pointing that out; certainly, we're following the situation up there but the nuclear waste management organization in Canada I think has actually had a very successful experience in setting up a consent-based siting process. [Interrupted].

Mr. Kevin Kamps. The nuclear waste management organization is Ontario Power Generation. It is the nuclear utilities of Canada dominated by Ontario Power Generation. There's a great new film called "Nuclear Hope" that just came out and it examines one of those communities of the 22 you mentioned; I believe it's Hornpayne, I could be mistaken, and the reason for them volunteering was they need the money; they're desperate for the cash, and so those two proposals, DGR 1, low and intermediate, and DGR 2, which is high-level radioactive waste, they are very much joined at the hip, the Canadian Environment Minister has just pointed that out, and asked for a cumulative impacts assessment on the two dumps close relationship to each other, so you can't sidestep the issue that this is related to spent nuclear fuel in Canada and Chicago, and as I mentioned 184 resolutions representing 23 million people have said "Just don't do it!"

Mr. John Kotek. Well, Kevin, obviously what we're trying to do is come up with a durable solution that works with states, tribes and local governments that are interested in, as I said, being willing and informed hosts, and that meet the safety criteria that are going to be set for either storage or disposal facilities. That's what we're aiming towards. We all know this stuff exists, even if you shut down all the nuclear plants in the country today, you'd have 85,000 metric tons of spent fuel that you've got to do something with. We're trying to develop a responsible solution to that and look forward to having your help in getting there.

Mr. Kevin Kamps. The Saugeen Ojibwe Nation has not given its consent to the DGR in Canada. So there are just so many levels to how that is not consent-based.

Mr. John Kotek. We will not look for a site in Canada.

Mr. Kevin Kamps. You brought up Canada, I did not bring Canada.

Mr. John Kotek. It's a *model*, Kevin. All right?

Mr. Kevin Kamps. And it's going very, very badly. So if you're going to follow that model, then God help us.

Mr. Jim Hamilton. So we are going to go over one last question; could we get a mic over here?

Ms. Juliana Pino. Thank you. Can you hear me?

Mr. Jim Hamilton. Actually, okay, I pointed to somebody else, but we're going to let you go first and you go second and then we're going to wrap this up.

Ms. Juliana Pino. I should be pretty quick.

Mr. Jim Hamilton. Thank you.

Ms. Juliana Pino. I'm Juliana Pino, I'm Policy Director at the Little Village Environmental Justice Organization. I work with Kim sitting on the panel. I just had three remarks.

The first is that when we're thinking about designing consent-based processes, we need to think about barriers to access those processes and resourcing participants. I would point DOE to the National Environmental Justice Advisory Council Guidelines on Public Participation; they speak to the special barriers present for communities that are already under environmental duress and what measures should be taken in actual engagement with those communities to facilitate people not only being informed, but also being able to communicate their perspectives accurately. So I would say that that is of utmost importance if you are actually looking at consent and informed consent.

My second point is just about cautioning the group that's working on this around site selection and not assuming that communities that are already dealing with active nuclear sites or decommissioned sites that they would be then more willing to host new siting of storage. I think often in environmental literature for economic reasons and for other reasons there are assumptions that once communities are overburdened, then that makes them better candidates for siting. And I would argue that because those communities are overburdened, that they are not good candidates for siting and I think that's partially due to the compounding impacts on public health, and economic impacts, but also because those communities are already operating under duress, which makes it difficult for them to actually give informed consent to new sites. And so I just wanted to make that point.

And then the third is just a brief point on considering from the beginning just transition as you start to think about some of the issues that will come up for communities who experience, say, market shifts or economic challenges from the loss of nuclear income and how to better replace those funds with new energy sources.

Mr. Jim Hamilton. All right. Thank you very much. Do you want to go last? Okay. (Response is "no"). We're good.

Thank you all for a good and thoughtful series of conversations. We're now headed into the break. Before we do that; hold on a little bit. I want to describe what happens when you return.

We ask that when you come back from the break, that you feel free to divide into small groups around these tables. I'll tell you more about that in a second. The goal here is to allow you to explore amongst yourselves more deeply the issues around consent-based siting that you've heard already this afternoon. There are no prescribed topics for this discussion. But in your packet there is a sheet of paper, which I have one here, that gives you some suggestive themes and lines of exploration that you may use if you want to guide your conversations. Each table will have the services of a neutral facilitator. Their job is entirely to let you have a productive dialogue.

So, two things. I would like ask the facilitators to stand up and raise their hands so you know who they are. Thank you very much.

And secondly, we're just trying to get a headcount here for who's going to stick around for the facilitated small-group discussions. Once those happen—that's an hour-long—then we've got a reporting-back period that's also going to be part of this session and then following that is a public comment. And so, a quick show of hands on who wants to stick around for the facilitated small-group discussions that are

going to start 15 minutes after our break is over. Thank you very much for helping me get a handle on that, I appreciate it.

Public comment: We have a 30-minute public comment following the report-out session. If you wish to make a public comment, there's a sign-up sheet at the registration desk; I would ask you to put your name there so we have a sense of how many people will be making a comment. For those on the webinar, multiple small-group discussions do not make for good television. So we're going to put the webstream on pause and we'll restart it once the reporting back happens from the small-group discussions.

So, with all of that, it is now 2:52 PM. I'd like you to be back here in 15 minutes to start the small-group discussions; we'll have flip charts and poster boards and stuff and then for those on the webinar we are going to press the pause button and we'll see you in 75 minutes. Fair enough? Thank you very much.

Small Group Discussion Summary Session

Mr. Jim Hamilton. All right, are we good? Okay, excellent.

So here's the "giant leap of faith" part of the meeting, okay? I'm going to call on the facilitators and they're going to report back what they heard from the group. And if it's possible, what I'd love to see, is if you've got a summary chart or something like that; if you want to walk it up and stick it behind here, we would like to try that. Or you can stand there. This is the "leap of faith" part of this. I think we're going to report out from there. And then at the end you can stick whatever you want up here so we can all see it. All right?

You get the first prize for going first. Take it away.

Facilitator 1. Thank you. Well, the prize goes to my participants at this table; let's give them a hand (Applause). We identified a total of nine items, and then they drilled it down to five that are probably really critical; I think they're all really awesome. Let me cover those that they identified. These are absolutely top considerations the DOE should consider in the consent-based siting process.

One of them is: What is the specific problem that's being addressed at that particular site or that plant or that hazardous waste? Get really clear: the size, the scope, the footprint, etc. What is the nature of the problem? How long is this needing to be addressed? That's one of them. All right? What's the problem?

Another one is: Who pays for this? How is it paid for? When is it paid? And one of the examples that came up is sometimes the hidden costs that can trickle out as the example that came out from the Mayor of Zion. And sometimes the locals end up paying for much more than they thought. So: How is it paid for? How is it financed? All of the long-term costs that come into play.

Another one is the level of awareness, and the opposite of that, the ignorance of people as to what they don't know might hurt them in the long run. A good example was GMOs; and we still don't know what's

happening to our food supply in that regard. What do we not know that's happening to hazardous waste and how that might impact our health in the long run. So that needs to be addressed.

Another one here is very clearly define the community that is impacted. The community or the location if that's in the middle of nowhere. And we started literally having a kind of a laundry list of some of the impacts that you may identify: demographics, economics; what is their level of distress, what is their motivation to want to be involved in this? Is this adjacent to water traffic, other patterns and things like that, so there's other areas here. What are the political jurisdictions? Et cetera. Clearly define the community that needs to go into the consideration.

Another one is—this is really, the really, really long view here, which is—a you must have an ongoing monitoring of the sites. There can be sometimes some quick impetus to establish a site, to establish a permanent site, but how are they going to feel 20 years from now, or 200 years from now; so that needs to be monitored. Current sites, permanent sites, how is it being monitored, and is that transparent information?

So did that cover them all, team? Okay, we covered them all. There were some other ones that were up there and that will be submitted in writing, so again, thank you. [Applause].

Mr. Jim Hamilton. Now we're going to go over into the corner.

Facilitator 2. And now you get to hear from the team in this corner, let's give them a hand. (Applause). I don't know if you guys could hear us, but we had a lively conversation. So we tried to boil it down into three points.

The first one is questioning the premise of centralized interim storage. Instead of moving it someplace and then taking it to permanent, maybe instead you keep the interim where they are now, and make that the interim storage, and invest in those communities. Also, the legitimacy of the process. And we also talked about needing consent from Congress. That needs to be happening now, making sure that everybody is on board starting at the top.

The second one kind of goes with something that Bill had said. Is informed consent even possible? And part of it is because it's long-term. And we had the word "generational equity"; what people are going to know, administrations are going to change, city councils are going to change, citizens are going to change, etc. And we need to make sure it's clearly defined who's going to have responsibility for what. For the monitoring, for accidents, for things that are unknown now – what's the process for working through those and making sure that everyone knows their responsibility as these changes happen.

And then the third point that we talked about was the political and corporate agendas to continue nuclear power. Is that what's driving this and the motivation behind it? We need to be very clear on, again, what the problem is, but what's driving it and making sure that we are attacking the things that we need to be attacking so that the motivation is clear and understood as we're driving toward a consent-based process.

Oh, and "social equity" is another comment under "Can we really ever get informed consent?"

Mr. Jim Hamilton. Thank you very much. [Applause].

Facilitator 3. Hi! We're the table in the front corner. And we had a very lively discussion, and collected a lot of information. We came up with four pieces as the most important considerations.

One is informing a community's independent assessment of the problem and the need; the pros and the cons; the need versus the consequence.

Number two is trust. The DOE's capturing the community's trust: must understand the needs, the values and the concerns of the community.

Number three is transparency. Providing clear, concise information in a way that considers all perspectives.

And last but not least, number four, the stability of the process. The robustness of the process that is tested, works, and is long-term in scope and interests. Thank you. [Applause].

Facilitator 4. Now the best group will go. No, I'm just kidding there! They just cut me off the webcast! Okay, so our group had some great discussion and already there are some common themes among the other groups—so that was a good thing—and we had a great discussion as well.

As we started speaking, flowchart diagrams started coming up in my mind and so the group permitted me to draw some boxes here around one of the items we found. And one of the themes that came out was this idea of site solicitation on the front end instead of on the back end, so we go through the process and we kind of pick some sites; it's almost this idea of "Are there communities that would want to consider this—not that they're candidates—just consider it?" And it was interesting that that discussion went to some different places, but one thing they said is that would be kind of be box number one on the site solicitation. Let's start there. And then, going through this national dialogue, and they said this was part of that process.

This step two would be: Let's have a national dialogue as to what the eventual sites would look like. And then put together a plan for how that would work and always come back to this national dialogue through that plan so it would be adaptable, it would be flexible; those are key words that came through that. And then eventually to that site selection. So that was kind of theme number one that [we] went through.

Second was the idea, and this was the first thing mentioned and the last thing mentioned – transportation issues. And really, transportation information. There were even questions like "Is it a train a day? Is it a train every six months?" I mean there were some very specific questions around how are we going to, during this national dialogue, really inform those that live in these communities about what this really means. And it brought up a larger issue of really this idea of educating the public that may not even know there's a problem to begin with. And what's the solution going to be? There was some great discussion around the detailed charts, around transportation, that needed to be answered early in the process. In this national dialogue.

And the last one was around—and Janis, you said this with your group and some others—around transparency to ensure that we're being able to, through this plan, continually have this national dialogue. One of the examples that Dave gave was over when the national labs release their data, how are we educating the public on what that data is? Are there peer reviews? Are we making sure local communities have the information they need to make thumbs up or down choices or are they just [saying] "Hey, we

need 300 jobs next week. Let's do this!" So there was some great discussion around making sure throughout this process there's a continual education part. So that was a good thing—true transparency. Thank you, group. They did a great job. [Applause].

Facilitator 5. Thank you, Stu. I had a really great group who were very thoughtful. And they survived my charting. But there were a number of important issues.

One is that people felt that a new organization was needed. Reasons: more insulated from politics, a fresh start (as there was too much history with DOE). The new organization could make long-term decisions because of the availability of waste funds sort of outside the appropriations process; education and expertise; the provision of that to the communities would be facilitated, but interestingly enough is that DOE should not wait for a new organization. It's too important to pass up this opportunity to do it now. There was a comment about the fact that this all started sort of external to the political process in the sense that the Blue Ribbon Commission made recommendations and that DOE is following along in this extra-political approach by trying to figure out how to do define a consent-based process, and DOE's efforts could be a motivation for Congress to act on the new organization.

We also talked about how a new paradigm is needed; the need to involve groups in the community; environmental justice groups, economic development groups, whatever; that it just can't be the standard "We're going to go to the governing, the political governance of the community," and that there needs to be more on-the-ground, in-the-community engagement. You need to be out there talking to the groups in the community and that includes the regulator. The NRC should be out there talking to the people in the community, so that the community understands what the regulatory element in this process is.

And let's see—this one was important!—although everybody agreed that there needs to be a solid technical basis for any decision, for any qualification of a site, DOE should establish qualification criteria for consent from the social equity point of view. This all got started, this discussion got started, because of some of the comments that were made about communities who are in financial straits. Just wanting to take a site so they could solve their financial problems. And the qualification criteria go to the point of identifying any limitations in the community that might not lead to a long-term solution. That might lead to the site being abandoned. The race towards sort of negative comments.

And there was also a point made about the qualification criteria could lead to how grant money might be channeled to those community organizations not just to the governing body, but to those organizations in the community that are very important and are not just environmental, but economic development and, finally, again, strong technical basis for intergenerational time spans.

One admonition is that this is a long-term consent process, this is a long-term process. And it has to be carefully done, but as was pointed out, don't disenfranchise the existing sites like Zion, wherever, that might want the waste out of there sooner rather than later. Same token, don't prevent them from being part of a consent-based process to have that site be a storage place.

That's what we had. Thank you. [Applause].

Mr. Jim Hamilton. Thank you all. So with that we are going to move to the Public Comment portion of this meeting. All right? Again this is one of several opportunities for members of the public to offer their input and thoughts to the Department about consent-based siting.

I mentioned the sign-up sheet; we've got four people signed up. Given where we are in the schedule, we're looking at about 5 minutes per person and we're going to set up a mic here, and we've got Tim in the back just to keep track of time. He's got two cards: he's got a yellow one and a red one. The yellow one means you've got a minute left, and the red one means it's time to pass the mic on to the next person.

So the names I've got for the Public Comment Period are, in the order they were written down, I've got Kevin Kamps, I've got Gail Snyder, and Elaine Kahn and Beth Bushbaughm.

And if you could. Pardon me? [Comment from audience]. Okay. I'm sorry, and your name would be? So what's your name again, I'm sorry?

So I've got three people, Kevin Kamps, Gail Snyder and Elaine Kahn. And you would like to speak as well? Okay, so we'll put your name in. What's your name, I'm sorry? Mo Headington. Okay.

So there's a mic here; Kevin's up first. We've got Tim in the back keeping track of time. The reason we set it up is so that members of the public can address the larger audience in which DOE is present and with that, Kevin, ready? Alright. Welcome.

Public Comment Period

Mr. Kevin Kamps. Thank you. My name is Kevin Kamps and I serve as radioactive waste specialist at Beyond Nuclear and on the Board of Directors of Don't Waste Michigan, representing the West Michigan Chapter.

And I was going to start out with some Anishinaabemowin, which is the local native language here. *Kevin Kamps ndizhinikaaz. Kalamazoo Michigan ndojeba. Aanii. Aaniish naa ezhiyaayin. Mino-giizhigan.* I said "My name is Kevin Kamps. I come from Kalamazoo Michigan. How are you? Hello. It's a beautiful day."

And the reason I do all that is because we are on Anishinaabe land. Coming in here today I saw the sign for Pokagon State Park in Indiana; the Pokagon Potawatomi in Southwest Michigan survived the trail of death, were left alone by the U.S. Army because they had converted to Christianity; they own their land by having bought it in the White economy way back in the 1830s.

So, what I'd like to say: one of the questions was fairness. How could a consent-based siting process be fair? And I said these very things to the Blue Ribbon Commission on America's Nuclear Future at its first meeting, I think it was March 25th of 2010. A lot of familiar faces from that process: Timothy Frazier in the back of the room was Designated Federal Officer; Mary Woollen had a community outreach role for the Blue Ribbon Commission; John Kotek was Staff Director for the BRC, Dr. Moniz was a member of the Blue Ribbon Commission and I begged and pleaded the Blue Ribbon Commission that very first day and for the two years of that proceeding: Do not target Native American tribes again for these waste dumps!

Well, very much so. Do a search on the PDF of the Blue Ribbon Commission Final Report for how many times "tribal" comes up. This is environmental injustice. This is radioactive racism. How can you put it? No? It's not? It is John, it's very much. It's racist. This is racist.

Let's look at the Skull Valley Goshutes. Targeted for private fuel storage; limited liability corporation. Which was the nuclear industry picking up the reins after the DOE's own Nuclear Waste Negotiator went away. So Grace Thorpe – what's really ironic about the Blue Ribbon Commission is that President Obama established it and his Energy Secretary at the time, [Steven] Chu, put it together, hired all you folks to run it.

In March of 2009, and I brought this up to the Blue Ribbon Commission that first day, President Obama passed a Proclamation for Women's History Month. He honored Rachel Carson; he honored the woman who preserved the Everglades; he honored Grace Thorpe.

Back to the Pokagon Potawatomi. Grace Thorpe, Pokagon Potawatomi, daughter of Jim Thorpe, athlete of the century; she's also Sac and Fox, as was her father.

The Nuclear Waste Negotiator sends a letter to every recognized federal tribe in the country. "Wouldn't you like to host nuclear waste on an interim basis? We'll give you money." Her Tribal Council said "Yes, we're interested in that money." A few days later, Grace Thorpe had all of those people thrown out of office and replaced. Her reason? She had served in Nagasaki after the bombing. She knew what nuclear was capable of. She wanted none of that in her community. She took her message on the road and helped those other 60 tribes, tribal communities, who had initially said yes, out of the hundreds who received letters, to turn it back.

And then private fuel storage picked up the reins after that process went down to defeat, and tried to make it happen at Skull Valley Goshutes in Utah. \$50-\$200 million was offered by the nuclear power industry to this low-income community. Margine Bullcreek, who was the lead opponent along with Sammy Blackbear of the Skull Valley Goshutes, said "We are traditional; this is our land. We don't want this for our future generations."

They were harassed, intimidated, made to pay dearly by the corrupt tribal chairman who excommunicated them from federal monies that they were due. They were made to suffer for a very long time. Sammy Blackbear: somebody shot at him across the desert.

Was it a warning? Was it a missed shot? So yes, this is very much racism.

I love your smile, John. That's a beautiful smile.

So I would leave Native Americans alone. I'm glad you had an environmental justice speaker on the panel; that was very valuable. I hope that you will listen to what she had to say and her staff person had to say and I'll just close because my time is up.

But try forcing this stuff on communities against their will, and the example I will put out there for you to think about is Gorleben, Germany. Tens of thousands of people blocking the road, locking their necks to train tracks. That is when a community says "No." And if you force us to do such things, then we will see you there. Thank you. [Applause].

Mr. Jim Hamilton. Thank you, Kevin. And now Gail Snyder.

Ms. Gail Snyder. Hello, I'm Gail Snyder, I serve as Board President of Nuclear Energy Information Service which is based here in Illinois. Illinois has the most nuclear reactors of any state in the nation. We

have the most stored nuclear waste from nuclear power of any state in the nation. Most of us didn't consent to that. Licenses on nuclear reactors are being extended. We would say rubberstamped by the Nuclear Regulatory Commission, so that the original 40-year licenses are extended for another 20 years, and there's talk of extending those for another 20 years.

Did those communities consent to that long-term nuclear power facility in their communities when they originally agreed to them in the beginning? This is the history of the nuclear industry. This is what they're trying to do now. And this is our concern about what may happen with this very process. That's why we question if this process is really a process that should continue. We think it should be a national conversation. That Congress should be involved. And the public needs to be informed.

The Department of Energy is tasked with promoting nuclear energy. So, when we go through this process, we know that the motivation to move the nuclear waste is to promote nuclear energy, to encourage further nuclear energy; to clear the spent fuel pools and remove the liability from the nuclear industry and onto the backs of the citizens. That that was the original agreement that we would take the nuclear waste; but we didn't agree to an interim storage facility with increased liability for some infinite amount of time.

We had, as a government, agreed to take the waste and put it in a permanent geological repository. So we're getting an additional liability burden amongst the taxpayers and the public and the environment, as this is shipped around the nation. It's very unnecessary. I think other alternatives have not really been explored. This is a big industry. Moving nuclear waste, storing it at other sites, hiring people to manage the sites, hiring subcontractors; this is all what will happen if this process moves forward.

This is not a safety issue. Removing the nuclear waste as it exists right now is not a safety issue. So they say. But if it's a safety issue, then why has it been safe to keep the nuclear waste there for as long as we have. The NRC, the government, the Department of Energy, the nuclear industry, have said we are safe. It's safe there. It's contained. It's okay. But now all of a sudden it has to move, so it can't be a safety issue. I just want to point that out to people. Don't fall for an idea that this is unsafe to keep it where it is. And now we have to move it.

It is unsafe. I would say it is unsafe. But it's not going to be safer somewhere else. We're just going to actually increase the amount of concern and the probability of an accident if we move it around to another site. Thank you. [Applause].

Mr. Jim Hamilton. Thank you, Gail. Elaine Kahn? Okay, so now, it looks like our final – I'm sorry, I've got her first, and then can we come to you? Is that all right? All right, thank you.

Ms. Maureen Headington. I'm Maureen Headington, I'm President of the Stand Up/Save Lives Campaign. I am a past Director on the Board of the Illinois Environmental Council on which I served for six years; my last two as a Vice President. I'm very active in community affairs. I'm Public Policy Chairman for the Western Suburbs, American Association of University Women, and also on a board, the Hinda Institute, dealing with prison reform which is important for Illinois in terms of our financial situation and getting both sides to the table; something that would benefit everyone.

I've been involved in environmental issues ever since moving to our "dream home" in Burr Ridge, put in an English garden and we thought we'd stay. I didn't know that I was living within 5 miles of Argonne Laboratory. I had no idea what was being done there. Also, that I live within the sacrifice zone of both

Braidwood the Dresden plants. And it's something that if should we ever move again, it would be on my mind to check out, not just what's down the street, but what's down the road. Within 5 miles, because if you're talking about evacuation, you're talking about 50 miles.

As I glance over this room, I can't help but notice that Illinois—the state that houses more nuclear reactors and has more nuclear waste than any other—this room should be packed. I'm grateful that the people who are here are here, but there should be wall-to-wall people and probably in a bigger venue.

You have failed to engage the public thus far in this discussion. This is an issue that I repeatedly raised during the GNEP, the Global Nuclear Energy Partnership, hearings and meetings that I attended. The local press never heard of the project nor did my mayor. Therefore, in my testimony I requested that local press and municipal governments be notified of all DOE activity since we live in proximity to Argonne.

Clearly you are not doing your job. It is not the responsibility of an environmental activist like myself to inform the general public about information, or the environmental groups within this state, and God bless David Kraft, because for a state like this we should have many environmental groups that are focused on nuclear. It is not the responsibility of the environmental community to inform the general public about information they have a right to know.

Therefore, in response to your written question: One, how can the Department ensure that the process for selecting a site is fair? I suggest an unprecedented effort by DOE to engage the public, beginning with seeking public input during these meetings; therefore notice and a summary of the subject should be given adequately at least a month in advance to major local and social media, government entities, state and local, first responders, including police, fire and medical; civil groups, local associations, interested stakeholders, colleges, meetings attended in person or by webinar, which I know you are doing, no registration required; I was very upset yesterday when I saw it said you're no longer accepting anyone to sign up and I just came and the nice woman greeted me; but everyone should be open and someone on the street should be able to come in. You shouldn't have to be signed up to speak. Notice at least four weeks prior to the date of hearing and video of hearings available.

In response to your second question: What should be involved in the process for selecting the site and what is their role? Once potential host sites are identified, a consent-based siting process should include all affected entities. Additional public meetings and hearings adhering to the guidelines I just stated; agreement by state and county governing bodies as well as tribal governments in addition to acceptance by the host communities and acceptance by all adjacent communities to that host community. Agreement by all communities that will be impacted by transport routes, including truck, barge and rail to that host community.

DOE, NRC and EPA must be open, honest and transparent as to the risks and benefits to all potentially impacted parties. Consent means it must be informed consent. Fact: based on maps for a West location which the example was Yucca Mountain when it was being entertained, several thousand shipments of nuclear waste would travel through 43 states past the homes of 50 million Americans for 25 years. Shipments will be frequent and will occur over many years. Many communities will be exposed to large amounts and frequent shipments of nuclear waste. DOE reports that the region of impact for public health and safety along transport routes is 800 meters, or 5/10^{ths} of a mile on either side of the central line of

transportation for non-accident conditions, and 80 kilometers or 50 miles for accident conditions.
[Interrupted].

Mr. Jim Hamilton. If I may—I'm just checking in on time. You've reached your 5 minute limit, but if it's okay with you, we could allow others to speak, and if there's any extra time you can finish up, if that's okay.

Ms. Maureen Headington. I don't have that much more, I'd be happy to do that. [Applause].

Mr. Jim Hamilton. Thank you very much.

Ms. Jan Boudart. I'm Jan Boudart and I'm a Board member of Nuclear Energy Information Service. And I have to go get my glasses, sorry.

Mr. Jim Hamilton. We won't start the clock until you come back with your glasses, how's that?

Unidentified person from the floor. Excuse me, you were going to start public comments at 4:45 and an additional person has just arrived to speak.

Mr. Jim Hamilton. That's okay, we have a little more time.

Ms. Jan Boudart. I wanted to make a comment on the engagement of the public that was brought up. At Nuclear Energy Information Service, we really wanted to let people in Zion know that these public meetings, or so-called public meetings, were happening. But we realized that in order for a person to really understand that a public meeting is happening and they should be there, they have to see it 13 times. Once on TV, once in the newspaper, on the radio; lots of different venues for them, for the public to see something and then finally they'll think, "Well, maybe I should go!" And we could not afford to inform the people of Zion 13 different times that this meeting was taking place, so as a result, the meetings were extremely poorly attended and we had the cafeteria in the high school empty except for a little corner.

And I just wanted to say something else about safety near the plants that Gayle brought up. I don't know who, but somebody in the government service, I think it was the NRC, decided to not do a study of—oh, what was it?—the Academy of Sciences that had planned to study, and somebody said "Well we can't afford it," which was absolutely silly; the fact is they didn't want to know what the results of living near a nuclear plant [were], even if there is no accident, even if there are regular, even what the results are if you do a circular study, like one mile, two miles, etc.

And I wanted to talk about casks. A woman, Donna Gilmore, from California has done a deep study of the dry casks and everybody needs to be informed as to what her study revealed about dry cask storage. But then, unfortunately, my main subject was hearing that I went to a webinar that took place in Washington, DC, but I was still in Chicago; I got it online – I was added; I was on my computer. It was sponsored by Fred Upton who is the representative over in southwestern Michigan and I'm sure that the Cook plant is in his jurisdiction as well as I think Palisades might be, I'm not sure.

He conducted a hearing about shipment of nuclear waste and it was truly chilling. There was a long testimony by Bob Quinn, and he went through all of the different processes by which nuclear materials are shipped through the United States; it's being done all the time. The conclusion was there are about 1

million shipments per year of nuclear materials on the waterways, roads, railroads and air in the United States. And then he said something that is my pet peeve. He said no one has ever been harmed by any of these shipments.

Well, I just told you that the NRC decided they couldn't afford to do a health study. And to be really, really charitable I would say, which I did, I was at the LeSalle meeting for the new licensing at LeSalle, and somebody said the same thing, "we did blah, blah, blah and no one was harmed; it was a matter of changing things from the spent fuel pool to the dry casks," and all I can say is you're not doing a study of whether people are harmed or not. These studies have been done; they do show that people are harmed and you don't do a study; I'm not saying this to anybody here, "Okay, people, 'they' don't do a study; 'they' don't know whether anybody's been harmed because they don't want to know, and then they make a real big general statement, 'No one has ever been harmed.'"

Okay, to be very charitable, if I said I know that people have been harmed, that would be just as erroneous when there has been no information whatsoever about people; whether people were harmed or not. And I really get angry when I hear people say "We did such and such with radiation, and no one has ever been harmed or no one was harmed. We don't know." But I don't believe that. I think I know. I think people have been harmed by these nuclear power plants, by transferring used fuel pellets from the fuel pool to the dry cask. You can't handle nuclear stuff without harm. Thank you. [Applause].

Mr. Jim Hamilton. Do I understand that we have a couple people who want to speak as well? Maybe they didn't sign the form? That's fine, I'm just trying to figure out who they would be. I've got two here? Alright, whoever wants to come up first.

Unidentified speaker. Well, I think it's good that this was meant to have a discussion, including the public, and some people from the government and maybe from some industries, because I think discussion is good. But I guess I'm wondering about the premise, to begin with, of the discussion of consent. Because I don't understand why we need to move this stuff around the country. We're going to be moving radioactive materials from places that are already radioactive; we're going to be moving them to other places which will become radioactive, and all the other places in between, which may become random sacrifice zones.

I think there is also danger of having this stuff; it being exposed if you're too close to it. What if this stuff is stuck and I'm next to it on the highway, and I'm in a traffic jam or there's an accident? Just being near it is not safe.

Sometimes we have the discussion couched in "Oh, it's all going to be safe," but nuclear is unsafe inherently. So we've created it and now we have the task, as a country, to figure out what to do with this stuff.

You can't guarantee the safety of it; nobody can. So why make new communities unsafe? So I guess my question in this whole consent process is what is the motivation? What is the agenda for moving the stuff around?

If we do this, and in Chicago certainly, we have been the railroad hub for a while, we are going to be moving this along our railroad tracks of which we have many here in this town; I don't think there's a single neighborhood that doesn't have [a] railroad through it. Of course, we have so much nuclear waste I

guess one of the motivations, by some people, is that we have to move the waste so we can make more waste. And there are other solutions. The nuclear industry is an old paradigm, it's an old technology, it's never been a very good one; you can just look at Fukushima, you could look at Chernobyl, you can look at Three Mile Island and I can give you dozens of other examples of very unsafe nuclear projects.

So why are we not focusing our time and energy on renewables, on going forward with the new generation of energy? If anybody wants to say that nuclear is good for the climate, I don't buy that. We've created so much fallout up in the troposphere, and when it rains, it's coming down in different places. [With] Fukushima and these other accidents and all the nuclear testing we've had, we've already nuked our climate! There's fungus growing up there, God knows the brew that were making.

So why do we want to make more of it? So I leave you with those thoughts, but I envision a better and safer future and I hope that you are all on the same page with me for that. Thank you. [Applause].

Mr. Jim Hamilton. Thank you very much.

Dr. Laura Chamberlain. Hello, I'm Dr. Laura Chamberlain, I'm a family physician here in Chicago, and also an environmentalist and an organizer for Frack Free Illinois and Chicago Oil By Rail. And also a supporter of Nuclear Energy Information Service; so I'm very upset that I missed the rest of the public comment period. So you advertise it as 4:45 and you started it early so I'm kind of upset about that, but anyways, I'll forgive you.

So I want a list all of the aspects of informed consent that I can think of in this situation. Because I'm a physician, I knew what informed consent is. Informed consent is where you discuss *fully* with somebody the risks and benefits of all the options available to them. And any—even unforeseen—complications that could occur.

So let me list all the consent-based siting testimony that I would want a community to hear and this is probably an incomplete list. But we would like to hear from public health specialists, environmental specialists on environmental impacts, geneticists, pediatricians, OB/GYNs, oncologists, independent transportation specialists (including union workers for the rail lines, the shipping and the trucking), independent nuclear scientists to testify to the risks to a community and also the length of the risks to the community, [and] independent geologists to testify about the siting and the complications they can see with the geology of the location.

I definitely want to encourage independent scientists, so we would be talking about scientists from around the world that would come in and talk to a community about the risks and benefits. Remember the risks and benefits of every option need to be outlined to the community before they can actually have an informed consent. I hope that everybody in this room is thinking in terms of that kind of testimony. It's going to be quite a meeting; I would like to be there for that week-long or two-week long meeting to talk about the risks and benefits to a community.

Without informed consent, true informed consent, which is adequate timing; the information needs to get out to the community that this is actually going to occur; the community must participate by being able to ask questions; to understand fully high-level scientific concepts; without that kind of consent you do not have informed consent. So I open that up to some dialogue. Thank you. [Applause].

Mr. Jim Hamilton. Thank you very much. I don't see any other question, public-comment folks. Can I turn over the last few minutes to you? Would that be all right? Any time.

Ms. Maureen Headington. Again, I'm Mo Headington. It's a fact that experience has shown that property values decline significantly along nuclear waste routes. Using the Department of Energy's own data, it was estimated that between 70 and 310 accidents and over 1,000 incidents would occur during the nuclear waste shipping campaign to Yucca Mountain if trucks were used as the preferred mode, and between 50 and 260 accidents and over 250 incidences if trains were used as the preferred mode.

DOE also estimated that a severe accident in a rural area releasing a small amount of radiation would contaminate 42 square miles for well over one year. A similar incident in an urban area would have devastating consequences to the economy and to public health. Insurance does not cover radiological incidents. Neither homeowners' insurance nor health insurance covers problems caused by radiological accidents. The Price-Anderson Act limits liability for the nuclear power industry if there is an event or an accident. So basically the taxpayer himself or the taxpayers collectively have to pick up that tab in addition to the tab for building the things in the first place with all the subsidies that they're given.

Before you seek willing hosts, you must address critical issues, including the well-documented leaks that are at nearly every reactor site, tritium is just so, so common. Bradewood had it for 10 years and didn't inform their public about it. Casks that are a very thin stainless steel that were selected based on price not quality: these are not the same casks that Europe is using, which are much thicker, and put into much denser housing, in addition. The casks that were chosen by NRC cannot be monitored, inspected, maintained or repaired. Cracking can be expected in as little as five years. Most of the fuel now being used at reactors is called high-burnup fuel; it's exactly what it sounds like and is even more damaging to the containers. Not all communities are equipped with hazmat; according to the American Society of Civil Engineers, our nation's crumbling infrastructure and system of highways, roads and bridges is rated D+, making it prone to accidents.

Before any plan should be contemplated regarding consent, these issues must be addressed and the consent must be one of informed consent on risks and benefits.

So, the question is "Can we trust EPA, DOE, and the NRC?" Despite public concerns, NRC canceled a study of cancer risks in communities near power plants. That was a Wall Street Journal article.

That does not instill confidence. These are aging plants, working beyond the years for which they were intended. Yet NRC has yet to meet a license renewal it has not liked. The risk, friends, is all ours. Any community that is fully knowledgeable of all the facts cannot in good conscience offer to hold itself out as a host for nuclear waste. If nuclear energy and waste are as safe as you profess, why does the nuclear power industry need to hide behind the liability limitations of the Price-Anderson Act?

In 2014 the U.S. Conference of Mayors called upon the U.S. Department of Energy to focus on the treatment and storage of radioactive waste on-site to avoid further health and environmental impacts from the transport of waste produced from nuclear facilities.

So those are my comments.

There were just two other incidents that—again it's about transparency and the kinds of things that we should know about. This I discovered; this was a gem! I was in the archives of the Tribune, I think. "DOE Cites the University of Chicago for Nuclear Safety Violations." That was in 2006; I was living in my home at the time and didn't realize that that had happened. Apparently there were [sic] a series of reviews and it was determined that Argonne failed to adequately comply with DOE's nuclear safety regulations governing their programs. DOE's investigation of the safety review findings found that these issues have existed for a number of years and the University's efforts to correct them were largely ineffective. DOE noted in a letter to Argonne National Lab that it was simply fortuitous that no harm had incurred to ANL staff given the breadth and duration of the identified violations. The \$550,000 penalty was not paid because the University of Chicago is a not-for-profit and most of these nuclear labs work hand-in-hand with universities so they get out of the fines.

The other thing happened very recently. This is March of this year. And it happened in Texas, and was written up and I'm glad that NRC and DOE are doing their job in writing these things up. It's about us getting to know about it. And knowing where to look for it. It seems that a truck carrying radioactive material had a package that fell out of the transport vehicle; the package was found by a member of the public on the highway.

So accidents happen, and this is the kind of thing where you can get it right and I'm not saying that the nuclear industry or the people at NRC or DOE or EPA aren't good people. I think everybody tries to do their job to the best, but accidents happen. Despite our best intentions and that 99 times out of 100 for it to happen right is not good enough. Thank you. [Applause].

Mr. Jim Hamilton. Thank you very much. So we are ahead of schedule, so I think we're going to close the Public Comment period now. And, I'm sorry [Interrupted by a comment from the audience.] Pardon me?

Ms. Jan Boudart. Can I have one more chance?

Mr. Jim Hamilton. Certainly.

Ms. Jan Boudart. Thank you. This is going to be just a general comment. Before 1942, a tremendous amount of money was devoted to figuring out how to control a fission reaction. Then, the fission reaction was controlled, and fabulous amounts of money were devoted to isolating plutonium-239 at Oak Ridge, Tennessee. It formed a whole community and an enormous Rube Goldberg apparatus for getting this isotope isolated.

And then, after the bomb was dropped on Hiroshima and Nagasaki—we're not even counting the cost to those communities of that event or those events—then we have laboratories being established in Hanford and at something [in] Idaho. It's now called Idaho National Laboratory, or something like that, where a lot of experiments were done with a sodium-cooled reactor and there was a really horrible accident where three people experienced a very sudden and extremely gruesome death and then we're putting up nuclear power plants that have to be subsidized by the taxpayer; then the taxpayer pays for the electricity and pays for taking care of the waste; I mean the rate-payer pays for the electricity and taking care of the waste, but the taxpayer has subsidized the building; huge amounts of concrete; enormous quantities of carbon being put into the air to produce these materials and now we're faced with 72,000 tons of nuclear waste that's

going to be a further expense. And I just wanted to bring up the huge drain on the national treasure that this project represents.

And now we're being encouraged to throw good money after bad to keep this process going. And I think we should cut our losses. [Applause].

Mr. Jim Hamilton. Thank you very much. So now I'm going to turn it over to Mr. Andrew Griffith, Associate Deputy Assistant Secretary for Fuel Cycle Technologies, to offer a few closing remarks. Andy?

Closing Remarks

Mr. Andrew Griffith. Thank you, Jim. And I want to thank everyone for being here. But I would like to recognize Michael Reim who is responsible for organizing and pulling this and the other public meetings together, so thank you, Mike. [Applause]. Not a simple task.

On behalf of Secretary Moniz, John Kotek and the rest of the consent-based siting team, I want to thank all of you for attending this first public meeting on this really important issue. This is a national challenge. It's a national dialogue that we're trying to start and we appreciate your being here at the first one.

As we go forward and we try to develop an enduring process that supports a durable solution for this very challenging task that we have, your input is going to be absolutely essential. We're looking at a phased and adaptive process, one that learns as we go along. Recognizing we can't predict out dozens of years ahead of us, we have to be resilient to the changes that we face, but also recognize that this is a really tough problem that we have to solve for the future generations of our country.

And for that, we can't do it without the public input, and your input today—the frank and unvarnished comments that we had during both the comments here, the questions as well as the facilitated discussions—are [sic] going to be really essential for us to develop this process, because it really does have to last.

So with that, thank you, everyone. And we hope to see you again in the future. Melissa Bates, myself, Bill Boyle, Nancy Buschman, Mike Reim [are] going to be here tomorrow. If you want to continue this discussion in a smaller group, please see me before we leave here today; we'll make ourselves available. It's part of our program to get input from you, so don't leave here without making a comment to me or making arrangements to see us tomorrow. And with that, I will turn it back over to Jim. Thank you very much.

Mr. Jim Hamilton. Real quick. Thank you, Andy; thank you, panel; thank you, audience; both here in Chicago and on the webinar; thank you logistics people for pulling this off. It's a difficult problem, and this was a great first step. Thanks again.

Don't forget to pass in your e-mail and your evaluation forms; we're going to use feedback from those forms to design subsequent meetings, so drop them off on the way out or e-mail them to the Department.

This wraps up the formal part of the meeting and the webinar will now close. For those who wish to join the informal discussion around the posters, please do so at your convenience. We invite you to attend. Thank you again.

We are adjourned. Have a good evening. [Applause].