CONSENT-BASED SITING PUBLIC MEETING

Phoenix Marriott Tempe at the Buttes

2000 W Westcourt Way

Tempe, AZ 85282

June 23, 2016

FULL TRANSCRIPT

Mr. Jim Hamilton. Good afternoon. And for those joining in a later time zone, good evening. Welcome to Tempe and to the sixth in a series of public meetings the Department is hosting on its Consent-Based Siting Program. Thank you all 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 job today is to help us all have an open and productive conversation.

To start off, we have a few housekeeping issues to cover, and I'll run through those now.

First off, emergency exits from a personal safety perspective, are to your right as well as to your left.

Second, you should all have an information packet that you received when you registered or showed up. If anybody doesn't have a packet, raise your hand, and will be sure to get you one. Thank you.

Inside this packet you will find a copy of today's agenda; speaker biographies; a contact sheet for further information; content of the informational posters that you saw when you came in; sample themes and questions for the small-group discussions, and I'll explain more about those later; an information booklet describing the Department's waste management approach that looks something like this; and a meeting evaluation form.

For those on the webinar, this information is also posted on the Department's website.

Now the goal of these meetings is to engage in a dialogue around consent-based siting of nuclear waste management facilities and we've designed today's agenda as follows; but first, a schedule change or two.

Senator Bingaman's flight was cancelled; he will not be joining us today. He sends his regrets, and we appreciate that.

Secondly, there are some folks who would like the public comment period moved up earlier. Is that a fair characterization?

[From audience; unidentified voice] To 5:30.

Mr. Jim Hamilton. We'll get there. So here's what I'd like to do. There are some people who show up just for the Public Comment Period both on the webinar and here, and I think that what I'd like to try and

propose is that we'll keep the Public Comment Period as originally scheduled from 8:45 PM to 9:15 PM, but we will also offer a shorter version so we can have two of them, after the Question and-Answer Session following the panel presenters. So if that is a fair accommodation, I'd appreciate the opportunity to go with that agenda. Is that all right?

[From audience; unidentified voice]: Would you say the time?

Mr. Jim Hamilton. Well, given that we've lost a Keynote, we'll probably start that at about 5:45 PM-ish. I'll do my best. May be closer to 6 PM. But we'll have a small Public Comment Period for I think a number of people who want to say some things earlier. We'll accommodate your needs, but then we'll also have a Public Comment Period at the end for those who have shown up, or will be showing up, for that purpose expressly? Fair enough? Thank you.

Okay. So the agenda: We'll start off by hearing from Acting Assistant Secretary for the Office of Nuclear Energy, John Kotek; who will then be followed by four panel members you see in front of you here. We'll have a Q&A session; a quick break and then there will be a Public Comment Period there; some facilitated small-group discussions, where we are going to dig deeper into the issues around consent-based siting; followed by a report-out session, and another Public Comment Period and some closing remarks.

This meeting is being streamed live and a copy of this stream along with a meeting transcript and a report summarizing the meeting will be on the Department's website shortly.

We hope to cover a good deal of ground today and we look forward to your active participation. Again, thank you for being here. And to start it off, I'll turn it over to Mr. John Kotek. Thank you.

Mr. John Kotek. Thank you. Thanks, Jim. Before I start, I do have a brief introductory video from Secretary of Energy, Dr. Ernest Moniz, that we would like to show now, so if we could cue that up, please.

The Honorable Dr. Ernest Moniz, United States Secretary of Energy. [Recorded video]. Hello, and welcome. The meeting you're taking part in today marks an important step toward resolving a challenge that 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 recommending 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 a 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 the Department of Energy's future approach to seeking a community or communities that agree 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. Thanks again everyone for being here. I'm John Kotek, Acting Assistant Secretary for Nuclear Energy in the U.S. Department of Energy.

Why are you hearing from someone from the Department of Energy on this subject? Well, back in 1982, Congress, through the Nuclear Waste Policy Act, assigned responsibility to developing a permanent repository for spent fuel and high-level waste to the Department of Energy. That responsibility falls within my organization. And we're here today to try and get your input and your thoughts and ideas on how we develop a consent-based process to identify new sites and really achieve a long-term, sustainable solution to this question of spent nuclear fuel and high-level waste management.

To achieve that goal, we are developing a process to develop new nuclear waste management facilities, as the Secretary said, both waste storage and disposal facilities, collaboratively, with the public, communities, stakeholders, and governments at the state, tribal and local levels. We're seeking your help in understanding what concerns, what considerations do we need to reflect in the design of the consent-based siting process.

So I wanted to just give you a little bit of context and background on this subject today. Then, we'll hear from a series of panelists who will offer their perspectives and then we'll engage in some discussion and elicit your input.

So, how did we get where we are? Well, we've used nuclear technology in the United States for decades going back to the 1940s for a range of things: commercial power production; national defense activities and science and technology research activities.

Looking at commercial nuclear fuel – the source of most of the volume of nuclear waste that we're dealing with here – we've generated electricity using nuclear power for more than sixty years. Okay? That represents about 20% of the electricity production in the United States, and generates around 2,000 metric tons of spent fuel each and every year, okay? So, as result, we've got a large inventory, on the order of 75,000 metric tons of spent fuel that needs to be managed. Okay? This material exists. Currently, it's stored principally at the plants where it's been generated. We need to provide a long-term solution for the management of that material. Okay?

Where does this stuff come from? I won't go into great detail, but a nuclear reactor produces electricity by heating up water into steam; the steam turns turbines to produce electricity; the nuclear fuel is responsible for the energy that allows the steam to be created. In the process of creating energy, nuclear fuel also creates highly radioactive materials that we refer to as fission products, okay? So when the fuel goes into the reactor, you can handle it with your hands; when it comes out, it's extremely hot, both radioactively and thermally, and this will give you a sense of what we're talking about; what this material looks like. I think we have a mockup of at least one or maybe two types of different fuel assemblies out there by the poster area if you're interested in learning a little bit more about it. But uranium fuel pellets – uranium oxide pellets – are about the size of the tip of your pinky, and go into these long tubes that we call cladding. The fuel rods themselves are put into these things called fuel assemblies, and the nuclear reactor will have anywhere from 200 to 500 of these in the reactor core, depending on the reactor design, okay?

After spending about four to six years in the reactor, this fuel is considered spent. It's removed from the reactor and is stored at the site where it is generated. Now, it's first put in wet storage; so you see that fuel pool in the top left where it will typically stay for many years – even decades – until the fuel pool fills up. At reactors around the country, more and more of them have gone to the use of what we call dry storage, like the picture you see here down here in the lower right, which are concrete and steel containers used to provide both shielding for the fuel and to allow for cooling of the fuel. And if you look around the country, approximately speaking, about the two-thirds of the fuel around the country is in wet storage – about one-third of it is in dry storage, okay? So that's the commercial fuel part of the challenge.

The other part of the challenge is what we call high-level waste. And this is waste that is typically left over from the nuclear weapons program. There are other activities as well; but it's principally from the weapons program, from plutonium production, from nuclear weapons, but also from research and development activities – things like the nuclear Navy, etc. – have generated spent nuclear fuel and high-level waste that need to be properly managed and disposed of.

So again, just in summary, we've got about 75,000 metric tons of spent nuclear fuel in the inventory in the United States. We've got a variety of different high-level radioactive wastes – about twelve-million cubic feet of high-level radioactive wastes, kind of all told.

Where is all this stuff? Well, it's stored at locations around the country, alright? More than 70 operating or now shutdown commercial nuclear power plants in the United States as well as a series of Department of Energy facilities; again, located around the US. This map is a little tough to see, I'm sure, but I think we have a copy out there with the posters, okay?

I want to mention specifically the fuel at the shutdown power reactor sites. I mentioned that we've got more than 70 nuclear power plant sites around the country where spent fuel is located. And there are 14 sites around the country – 13 commercial reactors and then one there was a joint DOE-industry project – where the reactor has been shut down, and in several cases the reactor is shut down, and has been completely D&D'd [decontaminated and decommissioned]; it's gone, alright? So the reactor is gone, the turbine's gone, etc. All that is there is spent fuel.

That's a particular case of sites that we would like to be cleaned out early in the process and we're going to talk a little bit about our strategy for dealing with this, but whether it's at these shutdown plant sites or it's at operating commercial plant sites, the fact is the government had an obligation to begin picking up

spent fuel for disposal starting in 1998 under the Nuclear Waste Policy Act. That obviously hasn't happened. Because the government has not met that deadline, utilities have successfully sued the government for the costs of continued storage of spent fuel at their reactor sites. Damages awarded to utilities as a result of these lawsuits are paid out of something called the Treasury's Judgment Fund, which isn't appropriated funding – it's just general tax revenues. The liabilities are projected to be more than $23 billion over the next 50 years, on top of more than $4.5 billion that the government has already paid out in settlements and court judgments, okay? This is costing all of us money, alright? The fact is that we haven't achieved a solution to this issue.

So if we do nothing to act, the amount of waste is just going to continue to grow, and the communities that host these facilities, or DOE sites, will just become hosts to waste over the long-term.

A solution to siting, transporting, and disposing this waste is going to take decades to implement and we think we really need to get started now for a number of reasons.

One, the waste was created producing electricity and the nuclear deterrent and conducting other activities for our benefit.

The taxpayer liabilities, as I mentioned, are large and growing, and are expected to amount in the tens of billions of dollars; funding to pay for the disposal of nuclear fuel has been collected from ratepayers – if any of you are electricity consumers here in Arizona, for example, under APS, alright? You've paid a tenth of a cent per kilowatt-hour over the years into something called the Nuclear Waste Fund from whatever nuclear generated electricity you've consumed. As a result, there's more than $30 billion that has been collected that's been sitting in something called the Nuclear Waste Fund. The money is there to implement a solution here. Alright?

The government has entered into agreements with states and has the legal obligation to accept spent fuel under agreements that it has with certain states. We need to – sort of all told – provide for safe and sustainable storage and disposal now without leaving this to future generations. It's existed for more than 60 years. We want to get on with creating a solution to this problem.

So how are we going about this? Well, there is a long history of waste management efforts in the U.S. I know from hearing from some of the folks in the audience engaged in conversation – I know several of you are very familiar with the Yucca Mountain project; others are very familiar with private initiatives that have sprung up expressing interest in helping solve this problem – I'm not going to go into the detail at length on how we got here; if you're interested, again, there is information on the posters; we've got a few people here who understand this history quite well and can talk it through with you. Suffice it to say that there have been several attempts at a federally-driven, top-down process of imposing waste storage and disposal facilities on host states, and none of them have worked, okay?

So, what are we trying to do? We're trying to take a different approach now. This approach learns from what's going on in several other countries. So, you see we've picked Canada, Sweden, Finland, and France as examples here. Each of these are nations that have employed what we call a consent-based siting process, where they worked with local communities, local governments, to help them explore whether they wanted to potentially host a facility and achieve what we call a willing and informed host community. Of these four, the Finns are the furthest along – they've actually got a site identified with the

support of the local community. They submitted an application to their regulator; it's been accepted and construction of that repository is supposed to start later this year. The other countries are a little further behind, but they've all achieved success using a consent-based process.

That experience informed the Recommendations of something called the Blue Ribbon Commission on America's Nuclear Future. I was the Staff Director for that Commission, and so when Secretary Moniz decided that he wanted to really try to get this waste program started up again, he asked me to come back into DOE, which I did, beginning in 2015, to help, again, restart this program.

The BRC Recommendations – there are eight key Recommendations in the Report – but the key one was that you need a new approach. You need to work to find, again, willing and informed host communities. And you need the agreement of the host state if this is going to work, and you're going to achieve a durable solution. So, those Recommendations from the Blue Ribbon Commission form the basis for the Administration's Strategy for management and disposal of used fuel and high-level waste. And that was issued in 2013 and naturally that's the Strategy we're working here to implement. That Strategy calls for the development of an integrated nuclear waste management system and that's our vision that we're trying to achieve here. So what does that look like?

It's a system that includes interim storage facilities starting with a pilot storage facility that's initially focused on accepting spent fuel from those shutdown reactor sites I mentioned earlier. It will ultimately include a full-scale consolidated interim storage facility that will provide greater capacity and flexibility within the waste management system. One or more permanent geologic repositories for the disposal of spent fuel and for high-level radioactive waste; and then the transportation infrastructure to move spent nuclear fuel and high-level waste by road, rail and barge, okay?

Looking specifically at the question of consolidated interim storage facilities – as I mentioned earlier, this is a key part of the Strategy – we think facilities like this will provide needed flexibility in the waste management system and will allow us to clear out the shutdown plant sites; allow us to begin meeting our obligations – the federal obligations and our waste management commitments, and reduce the long-term financial liabilities to all of us; provide flexibility in the nuclear waste management system and really help build confidence with stakeholders and the public by demonstrating that a consent-based siting approach can work.

We're going to need, of course, a dependable transportation system to tie this all together and move materials around. At a minimum, waste is going to need to be moved from where it is now to a disposal facility. If we add storage in, you're going to need to move it first to a storage facility, and then to a disposal facility. And we work with state, tribal and local officials to plan for, and train for, the shipments. And in turn, state and tribal governments work with their local public safety officials to answer public questions and concerns and work with us on things like route selection and timing.

During transportation, as you may know, radioactive material is stored and safely contained in large sealed containers that are licensed by the U.S. Nuclear Regulatory Commission similar to the transportation cask here. As you may or may not know, we've actually got quite a lot of experience transporting spent nuclear fuel in the United States. My home state of Idaho, and the Idaho National Laboratory where I used to live, for example, has received hundreds of shipments over the years from both the Navy and other DOE activities from university research reactors or research reactors in the U.S.

and even abroad, so a lot of experience working on transport here, but something that we work very closely with, again, state and tribal and local officials on to ensure that it's done safely.

As you can see here though, all roads lead ultimately to a repository. We need to provide for the long-term safe management of this material because at the end of the day, it needs to be isolated from people and the environment for millennia. So every foreseeable approach to the nuclear fuel cycle still requires a means of disposal, alright? One that assures very long-term isolation of wastes. As I mentioned earlier, no facilities have yet been put into operation around the U.S. Finland is the closest. But every nation that's developing disposal capacity plans to use a deep mined geologic repository. That's the internationally scientifically accepted way to go.

So how do we get there? How do we think we get there from here? Well, as I mentioned earlier, we're working on the design of a consent-based siting process that we intend to implement, again, to work with states, tribes and local governments to achieve agreements with willing and informed hosts.

In developing that process, of course, we have to ensure safe and secure operations – we have to build and maintain trust with stakeholders – and we have to be willing and able to adapt our operations based on lessons learned. But the way we see this, moving forward, at least over the near-term, is conducting this process in multiple phases.

The first phase is where we are now. Engaging with you all – getting your input on what elements are important to consider in the design of a consent-based siting process.

The second phase will focus on documenting that consent-based siting process to serve as a framework for collaborating with potentially interested host communities. And then of course in subsequent phases, we'll use the resulting consent-based siting process to engage with communities and ultimately begin siting facilities.

So we're here to get your input today. And we've got multiple channels for getting input to a series of key questions, alright? How can the Department ensure that the process for selecting a site is fair? What models and experience should we use in designing a process? Who should be involved in the process and what should their role be? What information and resources do you think would facilitate further participation? And then what else should be considered?

So we'd like your input on those questions and others today. So as I mentioned, you'll hear from me; you'll hear from the panelists and then we'll engage in a discussion. And later, for those who are going to stick around, we are going to break into smaller groups to engage in facilitated discussions so we can hear your thoughts and report out on the key themes from those discussions.

The discussions we have today, as well as input we receive through other mechanisms you see here such as through our website, and in response to an Invitation for Public Comment in the Federal Register – they are going to feed into a summary report that we are going to put together. So we'll put something out that reports back what we've heard to make sure that we've captured the major themes that have come out of the public meetings and the other input, okay?

As I said, the input we get from you will inform the design of a process that we will use – and that we plan to issue later this year – that will serve as a guide for selecting a site and hopefully beginning to engage with communities on a local level.

In addition to engaging in conversations after we've put out a design of a process, we also recognize that it's really going to be important for, again, state, tribal and local governments – and potentially others – to have resources so that they can dig into some of the questions raised by the prospect of hosting a spent fuel storage or disposal facility. And what we're going to provide is as much and as thorough a set of information and resources as we can. We know folks are going to want to dig into these questions on their own.

One of the things we proposed to Congress next year is an appropriation of $25 million that we can use as the basis for a series of grants that we would make to, again, states, tribes and local governments – and potentially others – who want to dig into some of the questions that might lead to their expressing interest in hosting a facility. So more to come on that. It's still remains to be seen whether the Congress will provide the funding that we've asked for.

But the end of the day, the resulting consent-based process as well as this mutual learning experience we're beginning today is going to serve as a guide for working with interested communities as partners in managing our nation's nuclear waste. And in each of these phases, we are committed to implementing a solution in a way that helps foster well-being and sustainability of a host community.

So in closing, this is a problem of national importance. It's lingered for decades and it's still going to take decades to ultimately implement a solution. For that reason, we're committed to developing a consent-based process for siting and we're asking for your help in developing a process that's fair and reflective of public input. Our goal is to design a process that will enable a durable, sustainable solution that benefits all of us and avoids passing this problem on to future generations.

So with that, I want to thank each of you for participating in today's discussions, and encourage you to remain involved as we move forward with this process. So thank you. [Applause].

Mr. Jim Hamilton. Thank you Mr. Kotek. We now have the privilege of hearing from four panel members who will offer their perspectives on the siting issue. Each of them will speak to their own beliefs and thoughts on this and we will proceed in alphabetical order.

We'll start off with Dr. James Conca from UFA Ventures, who will be followed by George Gholson from the Timbisha Shoshone Tribe; Professor Michael O'Hare from UC Berkeley and we'll wrap up with Dr. Jennifer Richter from Arizona State University.

I'm not going to read their biographies – they are all in your information packet – but we are all grateful to hear from them today. So to lead us off, I'll turn it over to James Conca. Dr. Conca.

Dr. James Conca. Thanks. This is really about questions and answers so I don't want to start lecturing or anything. I want to throw out a couple of questions to think about.

One is: what if no one ever consents to anything? That is absolutely critical. What if no one consents? Does everything stay right where it is forever and ever? Is that okay? Is that bad? And this is not a trivial question.

And second, I want to talk about science, because science is actually the easy part of this. I'm a scientist – I've worked on almost every nuclear waste program in the world. I worked on Yucca Mountain for 25 years; I worked on WIPP for 10 years. The science is the easy part – really the easy part. The politics is the difficult part. So if you want to know the science, piece of cake. If you want to know the politics – horrible. And that's what this is about. Because the whole point of consent-based is a sociological issue. It's not a scientific issue. It's a sociological issue.

And talking about science, I kind of want to see a show of hands: who thinks scientists have decision-making power in this whole process? In America, in general? Who thinks scientists have decision-making power? I see no hands. So, true, I mean we really don't. And there's various ways that science comes into decision-making process and the scientists, and we do our work, it's great, wonderful; I love it, provide it to whoever wants it and then they decide how they're going to use it.

Now there's three ways it can enter into the decision-making process. One, it can be completely ignored, which happens a lot. It's not bad, and that certainly hasn't happened in this case, but in general there are other issues involved. Science is just one issue. So there's economics; there is politics of course; there's people's life; there's life-and-death issues that have nothing to do with science. I mean science is just one part of this, so it can be ignored. It can be supported, meaning somebody makes a science-supported decision, meaning the decision is made for some other reason, usually a very good reason. Either you can afford it, period, and it's done, or it's a historic reason, or a geographical reason, or some other reason that the decision gets made and then science comes in to make it as good as possible, essentially – to support that decision.

And then there is the science-based decision, where you actually based the decision on science. And as a scientist, I think that's great. But it's not usually the case, because there's usually too many other things going on and most of those things are sociological. So this whole idea of consent-based siting and the whole idea of siting anything, consent or otherwise, is a sociological issue. And that's what this is really about. I would talk about science, great; I'll talk about it until midnight, you can tell I like to talk. So that's fine, but it's not a science issue. It is a sociological issue.

So with that, I'll hand it over there. I'm way ahead.

Mr. George Gholson. You still have 3 minutes. Three and a half. [Laughter].

Mr. George Gholson. My name is George Gholson; I'm the Chairman for the Timbisha Shoshone Tribe out of Death Valley. And from a tribal perspective – and I had some time to think about this recently – I used to live in Britain, and I would go look at these 10^{th} century castles, these 9^{th} century castles that were thousands of years old and people used to live there, and I started equating that to tribal land. And we've been there from time immemorial and we have deep ties to these lands and when you move to a city, you don't have cultural ties to that city most of that time. You go there, and some people move away, and you move around.

But for tribes, that is land that we've been on for generations and centuries and to expect a tribe to consent to something that we really don't know we're consenting to is – I consider it a fundamental problem. Because when tribal members – what we know about nuclear energy and nuclear waste usually is from the media and is usually based off a disaster that has taken place. So that's the information we get.

For consent-based siting, from a tribal perspective, we need to know what we're consenting to. And I think the general public needs to know what they are consenting to. What types of materials? What types of dangers? What types of containers? How it's being transported? We need to be educated on what we are consenting to or we're consenting in ignorance.

And there is a level of distrust when it comes to tribes and the federal government. It reminds me of a story of a friend I had who used to – there were two guys; they would get off work, and you had to walk to the parking lot. And this one guy would say, "You know, I've got all this stuff to carry, would you go get your car and come back to pick me up and take me to my car?" And that guy said yes. So he did, every day, for about three days, and he would even wave as he drove by, and he never stopped. And that's how we kind of how we view the government – to a degree is that they're saying, "Hey, yeah, we're going to do this," and then they wave as they drive by. They want to include us and it's sometimes – I think we just get left out. We're in the back. We're not really in the forefront. So we are left out.

So tribes are working harder to be part of a consent-based process because it has a profound impact on tribes, because we can't pick up our tribal lands, we can't pick up our history, we can't pick up and move to another neighborhood, we can't move to another city. That's where we are from. That's our ties. That's our place. And to have it possibly contaminated is deeply troubling to our people and you take the elders and they just get tied up in knots over what are we going to do? How are we going to handle this? And we were recently given affected status in the last five years. We were given affected status with the Yucca Mountain project. And as we went through that, and even as recent as this year, there was a map put out for supplemental environmental impact statement that didn't include tribal lands.

So if we're going to be on an equal footing with states, counties and any other municipality, we should be included; and those lands should be included; and our people should be included. There should be backgrounds and histories; ethnically for what we have, where we're at and the potential impacts. We want to be treated no less than equal. And we want a fair shake; you know, we want to be at the table and that's one of the reasons I'm here is because I want our tribe to be engaged. And I want all Native American people to be engaged. There are tribes that have nuclear waste on their land already from inadvertent things that happened already – that you know, we weren't aware of – and I don't know if the public knows, but you could go X-ray your feet at some point in history and go ahead and radiate your feet and that was okay. You go check shoe size and then people started getting sick. You could buy radioactive materials that you could drink as an elixir. Would we do that today?

So what does the future hold for us? But tribes want to be on equal ground. We want to build a trust with the nuclear industry, the NRC, the Department of Energy. And we want to know that when they're telling us that they're going to do something that they do it, and when they're giving us information, that that information is accurate and complete, so when it comes time to make that decision on consent-based siting, we want to make an educated decision on that. Not an emotional decision. We want a decision that's going to affect our descendants for years to come and I think that at this little tiny moment in time which if I were to say – this is the moment in time where we are at right now – what is another thousand

years going to hold for us as far as nuclear waste goes? We don't know. We can extrapolate numbers; we can guess; but we don't know what the material is going to do. We don't know how the radioactive isotopes are going to react over a long period of time. We can calculate, but we don't know. If you take a look at the encyclopedia from 1970 and you compare it to today, a lot of that information we thought was accurate then and was taught in schools isn't accurate now. Just through science.

So what does the future hold for us? And the tribes want to be part of that future. I don't think we want to be put in the back any longer. And to be fair, the DOE and the NRC – they have been more engaging with tribes. I'm on the National Transportation Stakeholders Forum, and I'm part of a couple of other committees. I try to stay engaged. I was raised around the uranium mining industry, so I'm familiar with that portion. I was exposed to radioactive materials or fallout from the Chernobyl incident and so I'm somewhat more familiar than a lot of my tribal members are and I try to educate them because again what we know about radioactive material and nuclear waste and all that stuff, is the negative part. Because that's all you get out of the media – you're not getting an education. You're getting a disaster in Japan. A disaster at Three Mile Island. A disaster here. A derailment there. Things that we need to educate ourselves so that we know exactly what we are dealing with. Thank you. [Applause].

Professor Michael O'Hare. Hi, everybody. I'm glad people are thinking about this. So just a word about why I'm here. Or at least why I think I'm here.

I got into this business in the late 1970s and my first research contact actually was a DOE contract on energy boom towns and the sociology and politics of developing them and that got us into the facilities siting business. And my colleagues and I wrote a book about this, and I worked for the Commonwealth of Massachusetts as the Assistant Secretary of Environmental Affairs. And one of the things we did was to design a consent-based siting process. And it was pretty cool, actually, and it almost worked. But we forgot – we didn't fully understand one important issue in this business. I think we now understand, and I think it's part of the flavor of the discussion that's now going on, all of which is a good thing. I'll get to that in a minute.

So let me say a word or two about what I think we've learned about this – This is commonly called the "NIMBY problem," which is "Not In My Backyard." It's not just about waste disposal, but lots of other things. Things that we all agree we need one of, but not here. We need one, but it should be someplace else.

I've learned that there's also some other acronyms – there's NIMTO – "Not In My Term of Office" and BANANA – "Build Absolutely Nothing Anywhere Near Anything." That one has some resonance for California, I should say. So there's many different political flavors and trends converging in an issue of this kind. Federalism; you know, what's the constitutional theory with which we deal with this? So what have we learned?

One thing I think is pretty well settled is that there is no substitute for credible, responsible, transparent engineering. If you don't have the science right, you're not going to get off the ground with a program like this. What it means to have the science right is something much larger – and that's why I said "transparent" – something much larger than all my engineering friends agree that I got this right, and now I'm going to go work on another problem.

The initial steps in this direction were built on a model of engineering browbeating, where we we're going to do such good science and bring so many equations and slides to the public meeting that people like you will just say "Oh, okay, well, sure." No. It doesn't work. Which is why the idea of funding people to do their own research, possible siting communities, and so on; funding them to get their own information, rather than have it delivered to them, and you have to pay people to do this because they have to hire consultants. We build that into our process and it worked pretty well. Some places – they tried to spend it on lawyers, but it sets the right frame.

Second thing: compensation. Early on, we thought, look, people are undergoing some costs, whether risk or real costs of, you know, trucks going by and making noise and dust, and they should be compensated for that. That turns out to be very tricky. There's a famous experiment that Bruno Frey, the economist did in Switzerland, where he asked people in some communities how they felt about having a nuclear waste disposal facility in their town and one – [He turns to Dr. Jennifer Richter on the panel] "You probably know about this: do you know about the study?" [She responds "Probably a little bit."] Okay. And one of them offered money compensation and asked how much would the government have to pay you to agree to something like this? And with the funds on offer, which were pretty generous, they got very low uptake. People said no, I don't want to do that. When they didn't offer money, and explained why it was important to Switzerland to have a place to put this stuff, they got much higher levels of agreement.

So, this is not something that you just buy like a money transaction. People are not willing to be asked how much they would charge to give their children cancer, which is what it sounds like if you do it wrong.

So it's really important not to frame this in any way that sounds like a bribe.

What we're really doing here is asking people to accept a "reasonable" risk – pause – a "reasonable" – and not a "zero" risk. It's probably safer not to live somewhere near this, if only because of transportation risk. How much safer? Well, a reasonable risk, for the benefit of the whole community. And that kind of request is an act of leadership and it was the thing we didn't understand in the Massachusetts process, at least the first time through – that we were sort of trying to get people to do something they didn't want to do, but most people actually are looking for a way of being of service to their community, but they don't want to be chumps. And they don't want to be lied to. But if you maintain that approach, the better angels of everybody's nature kick in.

So the next question I want to worry about is "Who consents?" So consent-based – we need an operational definition of what it means to have consent. And that's complicated. Is it the landowner? You know, if you're a pure libertarian, you buy somebody's land, and then you can do what you want with it because it's your property. Probably not the answer.

Is it a city, or a county or some local government? And we've seen the State of Nevada worried about its reputation. The handouts here, I noticed used the word "dump" quite freely to describe this disposal facility. I spent a fair amount of time in Massachusetts trying to explain to editorial boards of newspapers and TV stations why that was exactly the wrong word, because the hazardous waste facility we needed in Massachusetts was to avoid dumps. "Dumps" are what happen when somebody goes down late at night

and "dumps" it in the river. But the word is very hard for headline writers, because it's a verb and its four letters.

But I think that what we've seen so far is a leadership failure. And I disagree with a lot of language in some of the stuff I found as I came in. People can be proud again to provide a valuable service to a larger community, even though everybody else gets a lot of benefits and they suffer all of the costs, as long as the costs are appropriately managed and as long as they are properly recognized.

So I used the word "leadership" – my friend Ronnie Heifetz, with whom I was a colleague at the Kennedy School, has written some very interesting books about this – and Ronnie's contribution to the study of leadership is to recognize that leadership is not the study of people who have a horse and are very tall and make people do what they want. Leadership is the process by which a group finds and undertakes adaptive work. And Ronnie distinguishes two kinds of work that groups have to do. Groups are very general; it could be citizens or people or students in my class or many kinds of groups. There's two kinds of work that groups have to do. And one of them is technical work, and that's work that someone knows how to do. The other is adaptive work. And adaptive work is work that no one knows how to do. That means we have to figure out together how to do it. But we need to do it. And that's where the role of leadership comes in – it's to get groups to function together at that kind of very challenging task.

Okay, my clock has run out, and I would like to hear more from a Professor of Justice. I love your job title.

Dr. Jennifer Richter. Isn't it great?

Professor Michael O'Hare. Yeah. [Applause].

Dr. Jennifer Richter. Thank you. So my name is Jen Richter. And I think my talk will touch on a lot of the issues that have been mentioned here thus far, so hopefully I can bring them together in a logical way.

In these remarks, I would like to address concepts central to environmental justice. Environmental justice is a field of study and activism that brings together the values, practices and critiques of the environmentalist movement and social justice movements – especially the civil rights movement.

First developed in the 1960s to bring attention to the ways that race, class and gender intersect with the distribution of environmental risks and burdens, environmental justice investigates specific cases to find patterns of systemic inequity in our society. It also shifts attention and legal frameworks from individuals to communities as a method of addressing patterns of social inequity and inequality in the U.S. and links together communities with similar environmental issues and concerns. I believe that environmental justice has critical relevance to the consent-based siting process that the DOE is undertaking. It offers insights and ways of understanding and incorporating different social and political values into a CBS process. Environmental justice operates under three central frameworks.

The first is distributive justice. Distributive justice focuses on how a society distributes risks and benefits, which can seem pretty straightforward. Distributive justice can set a standard for justice arguments. It identifies the most obvious effects and problems using standards that can be quantified, including the economic variables, such as the cost of cleaning up contaminated lands; pollution levels, using scientific methods; health concerns, using statistical data; and environmental land-use patterns.

But distributive justice falls short in that it is mostly limited to those things that ***can*** be quantified. But some things are very difficult to quantify. Such as the cost of a healthy thyroid gland compared to one that has been contaminated and is now cancerous. It usually applies to the individual level and doesn't factor in community or other social groups. It can address the question of how risk can be measured quantitatively, but not why those risks exist in the first place, or who should or can assume those risks in our society.

As an example, I think George brought up a great example of uranium mining on the Navajo lands in the 1960s. Navajo miners were promised good pay in exchange for their services, but were given little to no information on the hazards of mining uranium, and no protective gear or equipment and were working in unventilated mines. But because these were historically marginalized people working in historically marginalized lands, Navajo miners and their families were not given the same protections and warnings as Anglo miners working in other mines in the Four Corners area. A lack of distributive justice.

This leads to a second framework, which is recognition justice. So to address the shortcomings of the distributive justice approach, recognition justice asks different questions. What underlying conditions are producing inequality in society? How is inequality manifested? How is it practiced? How is it normalized? And finally, how can it be disrupted?

Recognition justice needs to address why conditions are the way they are, not just what they are. It recognizes injustice stemming from unequal access to political power in order to understand an underlining systemic and structural inequality in society. How we articulate this collectively – as communities, as states, as a nation – is critical. Confrontations over nuclear waste sites are fundamentally about a lack of the recognition of the historical context and power asymmetries in the distribution of risks and benefits.

Recognition justice also places an emphasis on human integrity and dignity, as necessary components for equitable relationships between individuals, communities, states, and the federal government, too. To return to the Navajo uranium mining example, you can see how a lack of recognition of the historical context of federal policies governing Native American autonomy and Indian-Anglo relations were ignored, including how structural racism and a lack of economic options rationalized uranium mining as a solution for high employment rates. Mining companies left behind open mines and mine tailing piles across the Navajo Nation. Physical ailments including cancers as well psychological ailments like depression haunted those who worked in the mines as well as their families who inhaled dust brought home on miners' clothing. At the time there was no recognition of the lack of policies to protect them and information for making informed decisions about choosing to work in the mines was also lacking.

There is also hope here too, though. For instance, in the case of the uranium miners, the federal government passed the Radiation Exposure Compensation Act in 1990, to apologize and recognize, with monetary compensation, the hardships and illnesses experienced by downwinders, and those who worked in the uranium industry or test facilities during the Cold War.

So now that power imbalances, structural inequality and lack of representation are identified, now what?

Well, the third framework of environmental justice is participatory justice. Participatory justice is specifically related to participation in the processes of decision-making and representation. This is not

"just politics," but rather where politics can be made more just. Recognition justice and participatory justice are interlinked and a lack of recognition can lead to a lack of participation in decisions that will affect one's community, making the unjust distributions of risk and benefits seem normal, or just business as usual. Participatory justice argues instead for more justice in opportunities and access, especially for marginalized groups, to participate in our political processes in order to address and change patterns of domination and oppression.

To return to RECA once again, a lack of recognition of the demographics of the Navajo miners and their families made it overly difficult for claims for compensation to be filed. For many, English wasn't their first language, making legal documents hard to understand. Most had not been formally hired so didn't exist in official records of uranium companies that had been bankrupt for decades and places to file claims were in large cities, far from the reservations, making transportation another difficult issue. They could not participate in a compensation system because their specific needs and contexts were not recognized or addressed.

A consent-based siting process would take into account these three frameworks of justice. It would address what the risks and benefits are from agreeing to become a community for the permanent storage of nuclear waste. It would recognize the historical context of these communities in relation to other nuclear projects and other hazardous sites as well as economic options or lack thereof and how power and information will be shared equally and equitably.

Finally, it will have a structure that encourages participation from voices rarely heard in nuclear waste debates and take into account how people can contribute to the process of a consent-based siting process.

The crux of environmental justice is about values. The different and often conflicting values of different stakeholders based on a complex variety of values stemming from geographical proximity; financial gain; longevity of support for a project; experience with nuclear projects; the historical context of the community or a facility and expectations for benefits and risks.

But most of all, the central issues here are trust and representation.

Trust between the community and their local representatives, state representatives and trust in federal agencies to both fairly and transparently communicate ***with***, not just ***to***, and adjudicate their projects in good faith with communities that step forward.

A final concern I'd like to mention is that of intergenerational justice. We will leave behind amazing technologies and political accomplishments that will leave better off the policies of our children and children's children and their children. But nuclear waste enmeshes potentially dozens to hundreds of generations of humans and future human societies in our nuclear system. Anything that we accomplish based on a consent-based siting in the next 5, 10, 20, 100, 1,000 years will impact these generations. Creating management plans that are both enforceable and recognize our needs today but are also flexible enough for future generations to alter or amend based on their social values should be a gold standard of CBS as well.

With the CBS process, the DOE has an incredible opportunity to do much more than site a waste repository. In a nation where conversations about science and technology are often made at an elite level, which further alienates the public from the decision-making process, the efforts to create a CBS could be

applicable to a whole host of other techno-scientific issues, where trust is broken between experts, federal agencies, and the public. Dissenting, as well as supporting, voices need to be heard throughout the process and as other options and considerations crop up, they should also be taken seriously rather than dismissed as outside the purview of the CBS process.

In other words, engage with the public early, and engage with them often. The point here is not to please everyone, or come to a consensus, but rather to make sure that dissenting voices are heard, acknowledged, recognized and, in the end, incorporated into any final plan in order to create a robust and durable system of consent-based processes. [Applause].

Facilitated Public Discussion with Panelists and Acting Assistant Secretary John Kotek

Mr. Jim Hamilton. Thank you Jennifer, and thank you very much to all the panel members. I think we all appreciate your excellent and thoughtful perspectives.

So we're going to go to questions-and-answers, and then public comment. Is that what we agreed to? Alright.

So I'm going to open up the floor to questions from the audience to the panel members.

For those on the webstream, we also will take questions live, so if you type them in the little chat box – they'll get to me.

I'm sorry, is there…? Okay, just give me a second here.

So, for those in the audience, as we move to question-and-answer, all I ask is that you identify yourself and your affiliation, if any. We have two wireless microphones, so raise your hand and we'll get you a mic and I will do my best to do it in order.

I just want to emphasize that this is your opportunity to ask these five panel members questions about what you heard and about consent-based siting. If you want to make a public statement, there's a period of time immediately following this question-and-answer session, as well as towards the end, to allow for public comment.

But this part here is more of a dialogue and a Q&A session to take advantage of the fact that these five people are here and that they have put considerable time into their thoughts and perspectives.

So, with that, we've got two mics; I've already seen three hands. And I will go [pointing] one, two and then three. And then we'll go from there. So number one right there. Yep.

Ms. Karen Hadden. Hello, I'm Karen Hadden. I have come here from Texas; I work throughout Texas with an environmental organization called the SEED Coalition. I appreciated the comments of Dr. Jen Richter. I think the environmental justice issue is truly important. I think, however, that this process leaves a lot to be desired. Meetings have been held in Boston, Denver, Sacramento, Atlanta, Chicago, kicked off in Washington DC, and then tonight in Arizona, and there's going to be an Idaho and then a

Minneapolis [meeting]. So when you look at a map of these locations, you see this big ***arch*** of where the meetings are being held, and then you see this big ***gap***, which is Texas and New Mexico, which is ground-zero for this radioactive waste from the whole country.

And now we had speakers talking about rising up and being heroes for the community. I'd like to suggest that those communities on the East Coast could be communities that could stand up and rise up and volunteer to keep their own radioactive waste.

So my question is, who decided where to hold these hearings, and who decided ***not*** to hold a ***single*** one of these major hearings in Texas and New Mexico?

Mr. John Kotek. So that was us at DOE who made that decision. We were trying to get a good geographic distribution from around the country. There have been other groups – other locations – that have also expressed interest in us hosting meetings there. We haven't been able to do that – as you can tell – we do have a limited amount of funding to go ahead and pull something like this off, but we do want to hear from folks, too.

So for example, last night, where's Andy? Andy and Mary and I went to Southern California because a community there was holding a meeting and they wanted to look at this issue of consent-based siting, and particularly the issue of consolidated storage. They asked us to come down and appear at their meeting, and so we went.

So if there are other opportunities – things that you're aware of, where it would be useful for one of us to go and hear from folks who have a concern about this issue – then let us know. I'll give you my card when I'm done, or you can talk to Andy, Mary or one of the folks on our Siting Team, and we'll see if we can't at least get some sort of a venue to hear your thoughts and concerns on this subject.

But thanks for that.

Mr. Jim Hamilton. Did that answer your question?

Ms. Karen Hadden. Poorly.

Mr. Jim Hamilton. Okay, alright; I've got [pointing] two here, and then three. Yep.

Unidentified speaker: Yes, Dr. Richter? From an environmental justice aspect, what do you think about the procedure of having a meeting here in Southern Arizona at a hotel that costs $200 a night for a room for two people when the first licensing event is in Texas and the closest community is Eunice, New Mexico. The transportation routes are through Hispanic communities or native communities. I'd like to hear what you think about this scenario in terms of environmental justice.

Dr. Jennifer Richter. That's a good question. I don't actually know the ins-and-outs of how the DOE decides to have meetings or where they decide to have those meetings. But it's interesting you raised that issue. I did my dissertation at the University of New Mexico in Albuquerque and it was on – basically on WIPP – but also on the Greater-Than-Class C meetings, the WIPP certification meetings, the BRC meetings. I went to all these meetings all over New Mexico and I was a very poor grad student so I would drive out there on my own dime and then camp out at campsites because I couldn't afford to stay in the

hotels there. So I think if you're really interested in these things, you find a way, but it is difficult, sometimes, to access, all of these different ways.

But on the other hand, but I don't know – I personally don't know – a process by which you can get everyone into those conversations. I know there are a lot of New Mexicans and Texans represented when I was in Carlsbad or even in Los Alamos or places up north, but the idea of transportation and access just for getting to public meetings is already a problematic issue. Right? The idea of then scaling that out to transportation of waste – that's another – I assume going to be a huge issue within the consent-based siting process.

Mr. Jim Hamilton. Thank you. Go ahead, Michael.

Professor Michael O'Hare. Social media has a lot of potential to deal with some of these issues – I mean that we really don't live close to each other, especially in the West – that's a very diffuse population. But creative use of technology that we have now, such as webcasting, has some real potential to bring a lot more people into the conversation without having to camp out or find an expensive hotel room and I hope DOE is all over that like a cheap suit.

Mr. Jim Hamilton. Thank you. Third question – here.

The Honorable Representative Lon Burnam, Texas (Ret.). Dr. Richter, it's been a long, long time since I was a very poor graduate student, but I can appreciate what you did as a graduate student and what you learned and I particularly liked your comments.

Part of what you left out – probably not intentionally – is the whole issue of the uranium mining in New Mexico. I'll introduce myself. I'm Lon Burnam. I was born in Artesia, New Mexico. But I served in Fort Worth as a State Representative for 18 years, representing the majority minority Hispanic community and I'm very familiar with environmental racism issues. I fought them for 18 years in Fort Worth, Texas, as a State Representative.

But the question I wanted to ask you about is ***why*** should ***any*** community trust the national government in the context of just what the Navajo in New Mexico have experienced?

In 1979, on July 16th – 1979 – there was an accident related to bad management of a uranium mine which polluted the Puerco River. It made it where they could not use their water that season; made it where it destroyed their crops; made it where their livestock were killed. And all these 37 whatever years later, they've not been compensated for those losses. You can never compensate them for the over two dozen children that were born with birth defects within the next immediate years.

So my question to you is – since I do not believe in this process – I think it's fundamentally fraudulent and there's nothing about consent here, because it's not in the targeted majority minority communities of West Texas and Eastern New Mexico. My question to you is why should any of us trust the national government given its record with the Navajo in New Mexico; given the lies that were told to us during the TMI incident and the lies that have been told to us during the Fukushima incident. Why should there be any level of trust? Why should we even deign to participate in these Orwellian processes where the local people do not have access to them without engendering a considerable expense?

Dr. Jennifer Richter. Well, I think your question hits on the crux of the issue, right? And partly its recognition justice and something like the Church Rock Mine Spill, which occurred July 16, 1979, and we're quickly coming up on the 37th anniversary of one of the worst, if not ***the*** worst, nuclear accident in the United States.

But the onus, and I think [Audience interruption: "Please talk slower!"] – Oh, sorry – I'll try – my students are always very upset about that, too.

But the issue is that the onus is on the federal government. The onus is on the DOE to ***earn*** that trust, right? And I don't know – I don't know how they're going to do it. I would like to think that there is a way to make people trust in their government again. I don't think we're ***so*** broken that that's impossible. But it would require a lot of work; a lot of investment; a lot of enforceable promises that are kept in ways that these communities will define. Not the federal government, at the end of the day. And to me that is the only way that that can work. But it's a huge task.

[Comment shouted from audience] But why no hearing in Texas or New Mexico? If you want to hear the people, why did the DOE not come to the people most affected? Most at risk? Why?

Mr. Jim Hamilton. You want to take that, John?

Mr. John Kotek. We've got meetings that are being held in a variety of areas around the country, all of which are dealing with this issue. You saw the map earlier, right? We were in Massachusetts. They've got what is it, nine nuclear power plants up there; someone will correct me, but it's in that ballpark. You've got shutdown plant sites; you've got fuel sitting on the shores of the Atlantic Ocean or on the banks of the Connecticut River that's been sitting there for decades, right?

So we were down in San Onofre yesterday. They've had three nuclear reactors shut down. They're trying to get spent fuel out of their community. This is a nationwide problem. Okay? We tried to get a good geographic distribution. I've offered to have either myself, or members of my staff, come and engage with you. I'm serious about that. Take us up on that.

Like I said, we went to California yesterday at their invitation. Alright? We can't go everywhere with these meetings, but we want to hear from folks. I'm glad you're here. I'm glad we're getting the chance to get to know each other.

[Addressing Dr. Jennifer Richter] And then to your comment about building trust, I think that's ***exactly*** – you made the point about making and keeping commitments. I think that is so essential in this. You're right – everywhere we go, we hear about the lack of trust. Now for most of us who were involved in my team that we've put together, we're new at this nuclear waste issue, right? My first foray into it was when I was asked to be the Staff Director for the Blue Ribbon Commission back in 2010. So we haven't lived through that history, but boy, we've heard a lot about it in this whole process and having the ability to make and keep commitments I think is going to be essential. That's why we – outside of designing the consent-based siting process – we think there are other changes that need to be made, okay? We think the best opportunity for success over the long-term would be to implement the Recommendation in the Blue Ribbon Commission report as captured in the Administration's Strategy, to set up an independent standalone organization just focused on this problem. Give this organization access to the funding that the

ratepayers have paid into the Nuclear Waste Fund – the more than $30 billion that sits there, right? That should be available to really move forward aggressively to solve this challenge.

We know we are not going to be able to restore trust with you or anybody else overnight; it just doesn't work that way, right? But we think that if we can – everybody wants to see this problem solved and deal with this waste responsibly for the long-term so were not handing it off to future generations. Engage with us. Share your thoughts with us on what you think a just solution looks like, and we'll try to design a process that gets us to a safe, durable solution to this problem and I think that starts by – let's keep open lines of communication; let us hear your thoughts on this and give us an opportunity to show you that we can be responsive and start earning that trust over the years that it's going to take to solve this problem.

Mr. Jim Hamilton. I guess that I'd like to ask George if he wants to touch on the trust issue as well because that was mentioned in your talk, if you wanted to sort of…

Mr. George Gholson. Yeah, I don't know if we have that much time. [Laughter]. This is a long-standing trust issue. And it's with a lot of agencies that don't know what's going on within their own agency. We find that to be very consistent with federal agencies that the right hand does not know what the left hand is doing. If you were going to get that agency to clap, it would look something like this [shows hands in clapping motion missing each other]. Because it just does not seem to work.

Even if they're in the same office. I do a lot of work with the Bureau of Indian Affairs and I don't know if it's just the way they are structured, or how it occurs, but the little departments with that agency just don't know what the other parts of the agency are ***doing***. And it's a problem that Tribes have to deal with a lot and it's very frustrating, and then that frustration turns into resentment, and then you've got anger, and then you've just got deep-seated mistrust.

I was at a meeting for HUD. It was a tribal consultation. And it was the beginning of a tribal consultation and the way it took place was, "This is what we did; I hope you're okay with that." That was the consultation. It wasn't a back-and-forth consultation. It was information. That was, "We're telling you we're going to do and we hope you like it, but if not, well; we'll see you next month."

So I hope that changes and I hope we can engage on a deeper level to make sure that we can do something about the mistrust.

Mr. Jim Hamilton. Thank you, George. Michael?

Professor Michael O'Hare. So, a couple of points I'd like to highlight here. The first one is: It's really important about this process that there is a history that a lot of people know that is very troubling. The tanks at Hanford that nobody's figured out how to clean up yet. The story in the New York Times last – I don't know; two or three days ago – about the airplane crash in Spain and how the Air Force proposed to clean up the nuclear waste from these four nuclear bombs. Those are facts; people know about them, and they're also very salient, because they're newsworthy they're "Oh my God!"

So it's really important to recognize that that's out there and it's part of DOE's inheritance.

But then I want to turn this around and ask another question and that's the intellectual framework of the business I'm in, which is policy analysis. And the way it goes is: "Compared to what?"

We shouldn't trust the federal government. Instead we should trust some other body or organization. For example, private-investor-owned utilities. Pacific Gas and Electric incinerated a whole neighborhood south of San Francisco a couple years ago with their gas pipes. Well, we should trust our local government-owned agencies. And the Department of Water and Power in Los Angeles built a dam that killed, I think, 3,500 people when it failed.

Every human organization has its characteristic failures. That doesn't mean you're wrong to say no, no, I don't want to trust the federal government. But I think you then have to say, "Instead, I want this organization," or this something to handle this problem, because the waste exists, and you can't walk away from it.

So if not the federal government, what?

Professor Michael O'Hare. But I'd love to know what…

Mr. Jim Hamilton. What I'd love to do – I've got somebody there who hasn't spoken yet. I'll give him the mic, and then I'll give you the mic. How's that?

Okay, I'm sorry. Is your name Rose? Okay, so Rose is next, and then [pointing] it's you. I'm sorry for pointing; there's no other way to do it. Alright.

Ms. Rose Gardner. Hi, I'm Rose Gardner. I'm from Eunice, New Mexico. I live five miles from Waste Control Specialists and I'm very, very upset that you guys haven't come to visit us. We don't get a vote. We haven't even been approached by WCS, who's already turned in their application to put this dump on us and it is a dump. When you excavate the earth and you put containers of waste down in there, that's a dump. It's very dangerous – we are already living with low-level nuclear waste in over 36 states, including the Compact States of Vermont, and originally Maine, and Texas, and you're trying to find out how to get consent.

Well let me tell you. I don't know a single person in Eunice that will give you consent. We are a no-consent community. And if you don't believe it, you get your little heinies over there and ask the people what they think.

Now my question is, what kind of people in the United States – that have been living with reactors and all this other garbage to create electricity to boil water to create electricity – want to dump all that stuff five miles from where I live, and then I have to worry about my grandbabies' thyroid health? That is ridiculous; it's unfair; and if that isn't environmental racism; environmental injustice, I don't know what in the world is. I don't know what America is coming to.

But I can tell you this – you come ask us New Mexicans. My community is 50% Mexican-American. And I promise you we'll give you our no-consent; if you want a signature, if you want a name – if you want us to vote – we'll do what you want us to do; but please, come down there and visit us. Thank you.

Mr. Jim Hamilton. Thank you. Is there a question over here? Alright, thank you.

Mr. Steve Brittle. Hi, my name is Steve Brittle, I'm President of an organization here called Don't Waste Arizona. We're involved with a variety of issues and enforcement in the federal courts.

The thought that comes to my mind is that in 1994 there was an Environmental Justice Executive Order which would require your government agency to promulgate an environmental justice policy. Which I, frankly, have never found. But it might exist. My question is: Does it exist? And did you consult it before initiating this process? Because in my preliminary view of this, you've already violated the civil rights of a ***number*** of affected communities and I'm kind of stunned. I was expecting something better.

I will also say that I was a member here of the local Emergency Planning Committee for 10 years and I've participated in a number of hearings at the State Emergency Response Commission, including the transportation of nuclear waste when they thought it was going to go to Yucca Mountain.

Well, has anyone done a reality check? Because you're not including the risks along the route of transportation and of terrorism and terrorism attacks; the overall economic disaster that could occur if something like this that were to happen. I know that in Palos Verdes, the plan was to take the waste from Palos Verdes and ship it by rail through the Phoenix Metro area down by Picacho Peak. Terrorists could sit on that mountain and blow up one of those trains – let's be blunt, it can be done – and it would stop all the commerce in the entire Southwest, which would destroy the economy of the Southwest. None of those kinds of risks are included here, and so it's not even reality-based; but again, going back to the environmental justice. But my real question is did you review and consult your own Environmental Justice Policy before embarking on this process? Thank you.

Mr. John Kotek. And so you're asking a question regarding the Department's specific Environmental Policy and I've got to confess that I can't remember whether it was the President's Executive Order or whether it was the Department Order that I took a look at.

But what we're doing now is we're designing a process and we're trying to be as inclusive as we can in terms of the input that we receive. And so that's why we're going around the country; that's why we're webcasting; that's why we've had meetings outside of this process; that's why we've given the Federal Register Notice to give as broad a range of people as possible an opportunity to participate in the process.

That's why if you look at the panel selection that we've had, alright; the meetings that we've done with the Tribal Working Group two weeks ago down in Orlando, for example, to ensure that we are hearing from a broad participation of tribal representatives. The point of the process we're at right now is seeking input and we're trying to get as inclusive a process as we can to ensure that we can hear from all potentially affected communities, including those of minority and of color, etc.

Mr. Steve Brittle. But the train has left the station, and you haven't – you have already violated civil rights [interrupted]…

Mr. John Kotek. I'm sorry, you've got to be a little more specific about what train has left what station?

Mr. Steve Brittle. You've already started this process. You've locked out the communities that are going to be affected. And you've already gotten off on the wrong foot. That's my point. My question was to you was have you reviewed the Environmental Justice Policy that the 1994 Executive Order required the Agency to promulgate and so far you've said no.

Mr. John Kotek. We have, in this process – you're conflating a bunch of things here [interrupted]…

Mr. Steve Brittle. Well, no, no, no, have you reviewed that and was that considered in providing the impetus for this process? It's a simple question. Either you have, or have not reviewed it.

Mr. John Kotek. I have a team of people that are involved in process design, okay?

Mr. Steve Brittle. Do you know that they have or have not read it?

Mr. John Kotek. I will consult with them and I will find out.

Mr. Steve Brittle. And you will tell everybody who came here whether or not they did or not?

Mr. John Kotek. Sure.

Mr. Steve Brittle. Alright. Thank you.

Mr. John Kotek. Okay.

More broadly speaking, your question about locking people out – let me make clear – we are in the process-design stage. We have not started looking for volunteer communities or expressions of interest from host communities. Some communities – of their own volition have [shouted from audience: "That's not true!"] ***we have not*** – some communities have – they know that there's a problem that needs to be solved and have started their own initiatives, alright, focused on certainly the consolidated storage piece of this. We are designing a process that will ultimately lead to us going out and looking for communities, okay? But let's not confuse those two right now. But thank you for your input.

Mr. Jim Hamilton. Is my mic still on? Okay, a couple things. There was a question about the environmental justice policy, right? [To audience member] I'll get to you in one second. I've got Rob in the back; is that Rob? Introduce yourself.

Mr. Rob Howard. I'm Rob Howard with Oak Ridge National Lab. I work on John's CBS team. We have been looking at those documents. I will get you the links to the documents that we have been looking at, okay? So…

Mr. Jim Hamilton. So that is the answer we can give right now to that question.

Alright, so then I'm going to get back to – [pointing] you had your hand up because you wanted to respond to a question from Professor O'Hare; alright okay, so now we're going to do that. And then I'm going to ask for any other questions that we want to continue to process with. Alright. Welcome back.

The Honorable Representative Lon Burnam, Texas (Ret.). Professor O'Hare, Lon Burnam from Fort Worth, Texas, 18 years in the Texas Legislature and your rhetorical question about if not the federal government, then who do we trust?

Well, I know we don't trust the State of Texas because they changed the maps to suit their own purposes. The Ogallala Aquifer goes down to and is under the WCS facility, but within a ten-year timeframe the state maps were changed to the convenience of being near a donor, Harold Simmons from WCS. I know that one of the worst mistakes made in the Texas Legislature when I was there was to decide to privatize the facility and put somebody like WCS in charge – a known pathological liar billionaire out of Dallas who has stolen his way through the process – they now have a totally inadequately monitored facility.

They talk about there's not any water there, but on my two tours there, I see them pumping the water because it's over the aquifers, so no, I have absolutely no reason to trust the federal government; the Secretary lied; John was giving disinformation on the whole environmental justice issue; I have absolutely no reason to trust the State of Texas and I know ***absolutely*** you ***cannot*** trust WCS.

[The company] is headed by an accountant, not a scientist. The on-site manager is an accountant, not a scientist – they are ***already*** dealing with low-level waste that is extremely dangerous and they don't know what they are doing. But we have privatized this process.

So. Don't give me false options. I don't trust any of the three entities identified.

Mr. Jim Hamilton. Thank you. Alright; just give me a second here. You've already spoken once. I want to see if anybody else wants to speak. And then I'll turn it back to you. Alright?

So here are the next three speakers. The gentleman right there, okay? And then [pointing] you get number two; sorry for pointing, it's the only thing I can do; and then you're number three with the camera. Is that alright? So I've got one…[interrupted]

[Comment from floor] It's the second time I'm number three. [Laughter]

Mr. Jim Hamilton. I can make you number two if you want. [Laughter]. I apologize. You're number two. One, two and then three? Are we good with that? Alright, thank you; fire away.

Mr. Humberto Acosta. Good afternoon, everybody. My name is Humberto Acosta. I'm from Andrews, Texas. County of Andrews. I live 35 miles from the WCS low-level waste dump. I had a pamphlet right here from them that was mass-mailed to every resident in Andrews, Texas. And they state that they already have an application with the federal government so that they can bring in high-level radiation to Andrews Texas. That is true.

Mr. John Kotek. Yes it is. Just to be clear, their application is with the Nuclear Regulatory Commission and not us.

Mr. Humberto Acosta. Right, that is correct. And I am the father of five children, eighteen grandchildren and one great grandchild. I am very concerned for their future and for everybody else's, too. Not just from my family, but for everybody here and everybody else.

My concerns, sir, are many. We don't have the time for everything, but I know that I would like to ask a couple of simple questions like, for the scientist here, Mr. James Conca; and the high-level radiation that is mainly on the East Coast I suppose. My understanding is that the scientists and whoever has determined that these materials are safe to transport. Of course, I know that this is a problem because nobody wants this. Everybody wants consent, but nobody wants it. You guys want consent from everybody. I live 35 miles from the dump. That has been targeted already. That's a fact. That is the process of targeting Andrews County because Yucca Mountain is in limbo. So, we're next. That's a fact.

So, if it's so safe, I mean put it 35 miles from the White House. I mean, what's the problem? [Laughter]. And I've got some advice from my Indian friend here – stay as far away from the federal government as you can [laughter].

Mr. Jim Hamilton. Do you want to try and answer that, Dr. Conca?

Dr. James Conca. I'm not sure what the question was. But nuclear waste is not that dangerous. I live right next to the biggest nuclear waste site in the world outside of Kazakhstan, so I've lived there for years; I lived at WIPP for 10 years; worked at WIPP for 10 years. Scientifically is different, again, than the sociological issues. Scientifically, we know how to package this stuff. We built these transport containers, we ran them 80 miles an hour into cement-brick walls; we burned them in 2000° jet fuel fires; we dropped them from a height over a cliff. I mean you can't make the container any better than it is, okay? And there's never been a problem with it.

Contrary to what people think – I mean I'm actually a nuclear-terrorist expert – and I have the scenarios that keep me up at night, and they're not nuclear waste at all. It's a ***terrible*** dirty-bomb material. Much better dirty-bomb material if you really want an effective dirty bomb is cesium-137 chloride from the irradiation industry. It's easy to get. It's cheap. It's much more effective. Nuclear waste is not very effective as a dirty-bomb material and even terrorists know that and it's not really much of a target. There are much worse targets. Chlorine tankers and things like that. So, yeah, from a science perspective, yeah, if I were a terrorist – and I get into the heads of terrorists all the time, and it's kind of weird – but this is not my choice. That wouldn't be my choice at all. Too expensive. Too difficult. And not very effective. There is much better stuff.

Mr. Jim Hamilton. Thank you. And the gentleman with the camera, you're number two. Thank you for your patience.

Mr. Bob Aly. My name is Bob Aly. I was also working on WIPP for the last 30 years. And seeing the promises; seeing the failures. It's actually pretty mind-blowing. I agree that you guys are already off on the wrong foot here. Because Mr. Conca in one of his articles in Forbes – he said the accident at WIPP: "The only operating underground deep geologic nuclear waste repository had its first minor accident on Valentine's Day."

Somebody that thinks that an accident that closes a facility for two years is a minor accident – this is crazy. He's obviously just a stooge for the DOE to get this process moving when the outcome is already known by the DOE. Is that not true? I mean we already have sites selected. You know, most of this nuclear waste is West [sic – East is intended] of the 100th meridian. How come you don't already have sites selected over there? How about on Long Island? Would that be a good place? You know, I just don't get it. You're selling it. You're selling us, you know? And not only that, but you're not being truthful; you're dishonest. You have no integrity.

Dr. James Conca. Okay, I need to answer this. I worked for the state as a watchdog on WIPP. My old facility is the one that first analyzed those samples, so I know exactly what came out of WIPP. It's a minor – the environment was not contaminated; people were not contaminated, contrary [interrupted]

[Comments from audience overlapping] How many girls…twenty-two workers were contaminated –

Dr. James Conca. No, no, no. Twenty-two workers…

[Comment from audience] Yes, yes, yes. I've seen it in the reports. I know some of them.

Dr. James Conca. I know it's in the reports. Listen, 21 people – 21 people [interrupted from audience – Did they breath the plutonium? Americium?]. Can I speak? I'm sorry, I know this is really very emotional and all that kind of thing, but when that happened, we took surface samples off the people; we wiped their clothes; we took fecal and urine samples. The first fecal and urine sample had plutonium and americium at detection; ***just*** at detection. We took the second samples and there was no detection, and ever since, no detection.

[Comment from audience] So how do you [interrupted].

Mr. Jim Hamilton. If I may, there's a break coming up after the question-and-answer, and if you want to continue this, that would be great, but I've got other people who want to ask questions, so if I can move on, would that be okay with you? Alright, thank you very much.

So the woman – number three – there you go.

Ms. Leona Morgan. Thank you. My name's Leona Morgan. I'm from Navajo Nation. I work on education on uranium mining issues in the nuclear fuel chain.

I have a lot of comments and a lot of questions, but I'll just start with one. How do you calculate the risk – well, what is the risk for these sites? What is the cancer risk and the other health risks associated? And how do you calculate it for each site? Thank you.

Mr. John Kotek. You've worked in that field. Do you want to start with that?

Dr. James Conca. Yeah. I mean it depends on what model you use, so if you use the linear no-threshold dose model…

Ms. Leona Morgan. How does DOE use it?

Dr. James Conca. Good question. They use that one too. So they use – they assume that every photon of radiation can cause cancer. So it's a very extremely conservative model.

But you really need to look at the epidemiological evidence of the people that live around these sites. So if you look at Hanford, you know, and you look at the nuclear reactor sites and you say, "Okay, what's the cancer rate over the last 30 years versus the cancer rate before that or the cancer rate of some other place that has no nuclear material at all?" And you look at those rates, and they're about the same – it's in the noise.

So if you have something like Chernobyl, you can see real effects. But that was a huge amount of radiation released. But nothing is released from these other sites. Especially in United States. Nothing got – at Three Mile Island, you can detect something, but nothing beyond background radiation got beyond the gates of Three Mile Island. So there was no [interrupted].

Ms. Leona Morgan. So that all of the waste that is being proposed to be moved to New Mexico, Yucca Mountain, etc. for all of those earlier you said, how many million cubic centimeters or meters – all of that – when you move it somewhere – whatever site you're looking at, how much cancer risk after you move it to that site will be there and other associated health risks and how do you calculate that per site?

Dr. James Conca. Good question. It depends on the rock. So it depends on what you're going to do. So if you're going to put a repository in, say, granite, or in salt, or in tuff, or something like that, it's completely different. The risks are different. And so depending on what the rock is, you have to design the repository to fit that rock. So if you have a rock that is, say, fractured and leaky, then you have to have engineered barriers to take care of that. If you have a rock that is very, very tight then you don't need the same barriers. So it really depends on the rock. And that's the issue. If you want the scientific answer where is the best place to put this, we can give you that answer.

Ms. Leona Morgan. So I'm asking how – what is the cancer risk and so basically I'm hearing that you have not done any assessment of [talking over each other: Dr. James Conca: "We have done huge assessments – the cancer risks…"] the maximum amount of waste you are proposing to bring into our community. [talking over each other: Dr. James Conca: "We've done those studies."] What is the cancer risk?

Dr. James Conca. It's in the noise. There is no increased cancer risk.

Ms. Leona Morgan. Can you give us a number?

Dr. James Conca. If a population in this region of 100,000 people – they would naturally get about 39,000 cancers plus or minus 1,600, okay? So that's the ***natural*** cancer risk. If you put all the nuclear waste in United States in a repository there, the risk is still about 39,000 cancers plus or minus 1,600. You might have a couple of dozen in that noise, but you can't see them. The risk is so small compared to ***normal*** cancer rates.

Mr. Jim Hamilton. Okay. Can I move on for second?

Mr. John Kotek. I'm just going to suggest at the break maybe whether it's Tom or Bill – we've got a few folks here in the audience who have some experience with the regulatory standards that are in place governing repositories and storage facilities and so we might – if one of you guys could follow up with her and just give her a little more background on that, that would be helpful. Thanks.

Mr. Jim Hamilton. I'm going to put Jennifer on the spot here because I think what I heard in your question was what is the risk and how is it calculated. And is there an EJ component to that you want to speak to Jennifer; or feel free to punt, but I'm just…

Dr. Jennifer Richter. No, no, it's – I was thinking of a lot of other questions while you're asking that, because part of the issue is that there isn't a repository, so how do you measure the risk of a place that hasn't been constructed? So the other question is what are the cancer rates at existing nuclear power plants? Is that part of that question?

Ms. Leona Morgan. EPA has several calculators that they use that do also account for EJ communities and so I'm wondering what type of calculator do you all use and how do you account for not just the EJ but also very sensitive victims such as fetuses; the unborn, in our future generations. But really for children, women, pregnant women – how is all of that factored in?

I know that EPA does this for sites that aren't built yet, so how do you all do that?

Dr. James Conca. Same thing. We are governed by the EPA same standards. So you cannot build a facility of in any sort, let alone a repository, if the down-gradient family-farm well, like 11 miles away or something, is going to get more than 4 millirem a year. And background radiation is about 300 millirem a year, so you cannot exceed 4 millirem a year or you will not get permitted by EPA or NRC.

So, yeah, if you do the risk analysis, and it's not acceptable, you can't build it. Period.

Mr. James Hamilton. Okay, we're going to move on if that's okay with you. As a time check – I've got about five minutes left on the 45-minute question-and-answer period.

I've got one – you're next. Two….[Interrupted by floor: "She's already spoken."] Alright. Give me a second. You're first; you're second. Alright. [Pointing] Third, and then forth, and then we're going to wrap it up. Alright?

Then we're going to move to the public comment period. So if you've got a public comment – hold it; if you've got a question, we'd love to hear it now.

Ms. Karen Hadden. Again, my name is Karen Hadden. I'm from Texas and by the way I would just add that; you know, those of us that are here, that have traveled from other states, we spent about $400 apiece on flights plus hotel rooms and if you're having a hard time finding Texas and New Mexico, we'll be glad to show you where we are and we invite you. It's a massive oversight.

And you know, we're being told that no sites have been picked, but you know, Mr. Kotek you headed up the Blue Ribbon Commission and in that Report from 2012 there was discussion of possibly a site in Texas and New Mexico. This has been no secret. We've got an application in from Waste Control Specialists. We know what's going on. So please don't tell us that there hasn't been a site picked, because there has.

And so, here's a couple facts, and then I'm going to ask a question. There's been a minimization of the impacts of radiation on human beings in this room. NRC's own report said that if a person is exposed unshielded three meters away from radioactive waste, they will be immediately incapacitated and would die within a week. I consider that deadly waste. That's an NRC statement.

Okay, I'll show you the citation.

Dr. James Conca. I believe the statement, but who's going to be standing three feet away from unshielded nuclear waste?

Mr. Jim Hamilton. Okay, I'm going to…

Ms. Karen Hadden. This is going to lead into my question. There is also a report through the NRC that consequences due to sabotage or accidents are higher during transport. Since the waste may be near population centers and also there is less in the way of engineered barriers, you should be starting with real science and looking at what's the safest approach, not looking at what community can be ***coerced*** into taking this and bribed with huge millions of dollars.

So, here's what we're getting to. And the DOE calculated train accidents going to Yucca Mountain of a rate of at least one in every 10,000 shipments, saying that there would be over 10,000 [shipments] if it

was train-only. So we know there's going to be accidents. We know they're going to happen. The canisters being used – correct me if I'm wrong – I understand that they have half an inch of steel. In Europe, they use inches, like 10 inches, I believe, in some cases.

So, why are we even considering moving waste that is in thin canisters? And I have been told that these canisters have not been fully inspected and that they cannot be repaired, so are they going to land in Texas and then you can never send them to a permanent repository, even if there was one? We feel like it's going to turn into a permanent repository without any science to say that this is the place to put it.

Mr. Jim Hamilton. Alright. Thank you. John, do you want to take that?

Mr. John Kotek. I think we both probably have something to say in response to that…

Dr. James Conca. I have no idea what you're talking about with half-inch steel.

Mr. John Kotek. We heard the same thing – in fact, Donna Gilmore at the San Onofre meeting last night was sharing similar concerns with us, and what you are referring to there are the storage canisters that they're proposing to use at the San Onofre plant for storage. When you transport a canister like that, you put it into a transportation overpack that is significantly thicker and that goes through a series of tests to ensure that the combination of the storage canister and the transportation overpack can survive a series of accidents, alright?

To your question about the site, I'll repeat what I said earlier. We are in the process of designing our consent-based siting process. We will engage with potentially interested tribes, states and local governments that may potentially want to play a role; two communities in two states have already expressed an interest, as you're well aware. ***That's what you're seeing*** – that is not a result of us going out and asking for volunteers. What you're seeing is an expression of interest on their side.

We did in the Blue Ribbon Commission Report point to the example of communities like that around WIPP which embrace the WIPP mission; alright, and the community. The Mayor of Carlsbad, elected representatives down there, alright, have come and testified to us at these meetings, and of course during the Blue Ribbon Commission experience, about their support for the facility and their interest in continued missions. There is no secret about that. It's been in the newspapers, etc.

When you talk about starting with the safest approach – we need to ensure that we develop a system – an integrated nuclear waste management system – that can provide for safe, long-term management of this material: transportation; storage and disposal. That's what this is all about. Taking the first steps down that road. And I think you have a few things you wanted to say.

Mr. Jim Hamilton. Actually, if you can be really brief Jim, that would be great.

Dr. James Conca. Yeah, I don't know what you're talking about those canisters. Those are ***not*** the canisters you would use for high-level waste, at all. So I don't really know. I can't remember offhand but they are well over a foot thick steel and concrete. They are huge.

Mr. John Kotek. The design – it depends on the transportation cask – Steve, are you the right guy for that one or is it Rob? Who wants to take transportation casks? Rob?

Mr. Jim Hamilton Actually, I want to move on to other questions. During the break, if you have transportation questions, Rob – the guy raising his hand – and Steve are your go-to people.

I want to move on. We've got three more questions. You're the second one? Alright, welcome.

Jennifer [surname not provided]. My name is Jennifer. I'm here just for fun, actually. [Applause and laughter]. I'm Rob's – what am I? Second cousin? And this stuff is fascinating to me but what I'm wondering and nothing against you very passionate people because I would be the same way, as a studier of geography at ASU myself. I'm interested in why do you guys not pick sites away from communities? Do we not have enough land? Is it a money issue where we need workers from the communities? Because it seems like the communities are the majority of the problem, and we have nuclear waste that's just a reality. We need to dispose of it. Why do we do in your communities? Why can't we do it somewhere else?

Mr. John Kotek. That's would be in the eye of the beholder, right? So I live in Idaho, which is a place that some people think of as fairly sparsely populated, right? I worked at the Idaho National Laboratory site. My office was a couple hundred yards from a spent fuel storage facility.

So I mean there's communities there that are familiar with it, but there's folks everywhere you go. There are people who care about – states or land, or wherever you are in this country, so we think it really is going to be about getting communities and state governments that are willing to engage in a long-term partnership with us to solve this problem.

Dr. James Conca. There are criteria for choosing a site. There's about seven of them. And one of them is it can't be in the middle of nowhere. Because no one can live and work in the middle of nowhere. You have to have a Home Depot; you have to have hotels; you have to have houses. You cannot ask someone to commute three hours in the morning and then three hours at night. So they have to have a socioeconomic system that can support it.

But that doesn't mean – so about an hour away is about as far you can get to have any kind of facility like this. So you pick where you want it. You know, an hour away; that's about as in the middle of nowhere as you can get.

You don't want to put it in Washington, DC, although actually under the Capitol building might be nice. You can't do that because, again, the risk – any risk – is multiplied by the people around it. So if you're going to multiply by 7 million people in New York City or you're going to multiply by 7,000 people or 27,000 people in Carlsbad; those go into the calculation of risk.

Jennifer. It doesn't matter; if it's safe.

Dr. James Conca. It doesn't matter if it's safe. Absolutely. It does not matter if it's safe.

Mr. Jim Hamilton. I've got two more questions. I've got the lady here and then the gentleman in the red shirt, and then we're going to wrap it up and move to the Public Comment Period, and then we'll go to a break. So I'll get you out on time, I promise.

[**Unidentified speaker**] Hi. My organization has been monitoring nuclear projects in New Mexico since 1978. And you all seem like very intelligent people, but I wonder if you've ever asked yourself this

question. Why isn't there any opposition in Carlsbad like there is at all nuclear sites, really? I'd like to tell you about it.

Because when there was opposition, the leader of that opposition, Roxanne Kartchner, had her pet horse shot in the middle of his forehead. Because other people that were part of that opposition group had their children threatened; their jobs threatened; their businesses threatened; their mortgages threatened. You know, people in Carlsbad won't speak up. But when I travel down there, they come to see me in the back of dark restaurants; you know, in the back of buildings. Because they're still scared.

Now I don't know why such intelligent people can't understand that when there's absolutely not one person in a community that's willing to oppose a nuclear project that's dirty; that has been contaminating; has been closed for two years because of that contamination, that you don't ask the question why. And I'll tell you why. Because there are thugs connected to the rich people in Carlsbad who keep that place going. In the years that WIPP was sited there, Carlsbad had the highest murder rate in the United States, and you can look it up, if you'd like. Give me Carlsbad as an example. You might as well give me Moscow as an example, as far as I'm concerned. I lived through it. I lived through that oppression with the people down there.

Mr. Jim Hamilton. Thank you. Alright. The gentleman in the red. The last question. And then we'll move to public comment, and then we'll go to break.

Dr. Eric Ossowski. I'm Eric Ossowski; I'm a family physician in Arizona. I worked 34 years with Native Health and I've had several patients that were downwinders; some alive, some deceased. I'm also a member of Physicians for Social Responsibility.

I wanted to thank everybody for being here. And I live in Phoenix, which some people say is the least sustainable city in America; maybe one of the least sustainable cities in the world. And I also know that we all like our cell phones and our computers because I see them at the table and we do certainly – we wouldn't be here if we didn't have air conditioning and electricity right now. And it would be nice to have the most sustainable electricity from solar, water, wind and maybe hydrogen.

But anyway, I have a three-part question.

The first part is a basic science [question] and maybe it is foolish on my part, but could the tunnel be dug so deep that the bottom falls out of it. That it goes into the mantle of the earth which is radioactive, which consumes all of that. I know in Switzerland they just built a 30+ deep tunnel. It's horizontal; it's not deep.

And then is it possible to send some of the waste into space towards the sun to burn up there, where it's all nuclear. Because, let's face it, this nuclear material is all here. Maybe we didn't want it; some of us did; some of us didn't. It's all here. It has to be dealt with, somehow – for ourselves, for our ancestors. So that's the first part, the science part.

The next part is I guess policy and distributive justice. Is it possible to eliminate the intermediate step that you've talked about so that everything is stored on-site wherever it is; if it's on the East Coast; if it's in Washington; if it's in Arizona; until whenever a permanent site is discovered or decided upon and then it goes there. There is no intermediate storage of these other containers and other spaces. And that's what I

was thinking about when you were talking about distributive justice. That's distributive justice geographically, so the stuff stays where it was generated until it's taken care of.

And then the third part is since I'm a family doctor, is the preventative part, is to reduce waste. And that can be three ways. That would be eliminating nuclear power plants gradually as the other energy sources come on the scene; reduce the medical waste and academic waste of which I maybe was a contributor to; and then the third part is reducing the DOD-related waste, meaning reduce the use of nuclear weapons and nuclear-weapons testing. And I will sit down, thank you.

Mr. Jim Hamilton. All right, I was going to summarize that for a second. So the first part is depth of the tunnel and can we put it into space. The second one is the distributive justice question about leaving it where it is until a permanent repository shows up and no intermediate – no interim storage – and the third one is waste reduction-themed question. So…

Mr. John Kotek. I've at least got answers on the first two parts of the question. You asked about putting it into the mantle or into space. Actually, the NRC blog recently had a piece on putting it into the mantle and I think the concern they expressed was that that would be a transport mechanism for this material to go into maybe unpredictable places and I think it was viewed kind of negatively for that reason.

The idea of shooting it into space – I think it was actually looked at decades ago, and then things happened like the Space Shuttle blew up and they said maybe that's not such a great idea.

Dr. James Conca. You'd have an Exxon-Valdez kind of thing – it would be so expensive, it would be incredible. It would cost a trillion dollars. Actually, we worked on that at NASA. My first job was at NASA, doing this. So no, space is interesting, but it would be horrible.

Mr. John Kotek. And then your question about distribution justice and leave it where it is until you've got a place to put it. I think most of it's going to wind up staying where it is until you've got a place to put it. We have focused on consolidated storage as a way to at least clear out these 14 shutdown plants and to get the material all into one place so the communities that are sitting there just hosting spent-fuel storage sites can put those lands back to productive use.

You know, one of the things that we in the Blue Ribbon Commission Report, for example, that we expressed an interest in was at least some sort of geographic distribution of facilities. The original Nuclear Waste Policy Act, for example, called for a repository in the West and a repository in the East. So from the perspective, for example, of minimizing transportation, having geographically distributed facilities for this would be useful too, even if it doesn't all stay at the same place.

So those are things that as we see what sort of interest we have in hosting facilities, maybe we can build at least some sort of distribution into the system.

Mr. Jim Hamilton. Do you want to briefly close with the issue of waste reduction? At all? Is there a question?

Mr. John Kotek. The biggest share of the waste is from commercial plants, right? Our job is to take the waste. We don't operate commercial nuclear power plants and don't regulate them either, so those are

decisions that public utility commissions and nuclear plant operators will make going forward. Our job is to ensure that we've got capacity to handle the spent fuel when they're done with it.

We're actually not producing material for the weapons program anymore. I mean it's in recycling that goes on with weapons modernization and maintenance and what have you, but we're not making plutonium or highly-enriched uranium, so there are some things – you mentioned medical waste, for example, that are generated; maybe we can move waste from some of the radioisotope diagnostics and therapeutics, for example, but those are pretty small components of what we're talking about here. The biggest pieces are the plutonium production wastes, which have stopped, and the commercial fuel, which is really not our call as to how much of that gets made.

Dr. James Conca. I have just one thing I'd like to say.

Mr. Jim Hamilton. I'll give you 30 seconds.

Dr. James Conca. About the mantle – and deep. When you get deep, through the crust, three or four miles, that's the deep borehole concept, right? Then you're below everything, and there really is no mechanism to come back out. The problem is that we haven't drilled holes that deep [that are] that wide. Okay, now we can drill down five miles. But to put spent fuel down there, you know, you'll need a three-foot-wide hole. We haven't done that yet.

Also the thing about deep boreholes is that you can put it anywhere because the surface geology doesn't matter anymore. So it doesn't matter where you are in the country. You're down into the basement rock and that presents a political issue, because then every state could have its own deep borehole project, and that scares the congressional delegations who want to get it out of their state. And so the idea that you're going to have 32 deep borehole projects across the country is scary to a lot of people. But actually, that's fine.

Public Comment Period

Mr. Jim Hamilton. So with that I want to – can I just get a round of applause for the panel members, please? [Applause]. They've been put to the test.

So now just as reminder, there was a request earlier for a public comment period to be held earlier. So we're going to do that now, alright? I would like to know how many people want to speak now as opposed to later on in the session. I just need a number so I can figure out the math. Alright?

So I've got five people. So for everybody else in the audience, we're going to give – is it five or is it six? Five? One – two – three – four – five – six. Okay, we've got six. So just as a time check, and for those on the webinar, bear with me please.

It's 6:56 PM. If I give five people two minutes each, that's ten minutes, and puts us about six minutes after seven, alright? And so we're going to try to end the Public Comment Period at 7:10.

[Comment from audience]. Just two minutes?

Mr. Jim Hamilton. We've always done… [interrupted]

[Comment from the audience] We've spent $400 dollars to be here.

Mr. Jim Hamilton. You can also speak at the end if you want. But we've always had a 30-minute period. And it's about 2.5 minutes per person. That's the way it's been for the previous meetings. If you want to make it a little bit longer, I can; I'm just trying to manage the expectations here.

Okay, how about we do this. Does it make sense to take a break now, or do you want to go right into public comment now? If you can keep it to three minutes, let's do that. Six people, three minutes; then we'll go to break. That's the best I can do. Do you want to come back for a second bite at the apple, we can do it at the end as well. But I want to try to honor the commitment to the people in the room. Did you have something Jennifer?

Dr. Jennifer Richter. Do you have more lighting?

Mr. Jim Hamilton. Yes, the lights are tough. Alright. So, six people – three minutes. If you look at Tim in the back, he's got two signs. When the yellow sign is up, you have a minute left. When the red sign is up, it's time to pass your mic to the next person. There is a mic stand here and I'll invite people in whatever order they choose to come up.

So we've got somebody first…and…

Mr. Steve Brittle. I'll be brief – Steve Brittle, Don't Waste Arizona. I'm going to draw on my experience with the local Emergency Planning Committee and the State Emergency Response Commission.

The process here is fatally flawed. You've ignored the rights and the consent of the people along the transportation routes. You've also ignored the reality of the inadequacy of the potential need for an emergency response. I'm very aware of this state, and I'm very aware of what's going on in other states. The emergency responders have ***no*** training; ***no*** equipment and no ability to deal with something if something goes and. And it always does go wrong. I've been around the country looking at rail accidents and I've certainly had a lot of experience here in Arizona with incidents, so you need to start over and include the consent-based idea with the transportation routes, because otherwise you are violating the civil rights of absolutely everybody along all the transportation routes and that's almost everybody in the whole damn country.

That's probably the most important thing I can tell you. You're completely off on the wrong foot and this is a ridiculous exercise. You have ignored that reality. And until you come back to reality and stop your fairytale, you need to just stop. Thank you. [Applause].

Mr. Jim Hamilton. Thank you for that. And then… please.

Ms. Rose Gardner. Hi, Rose Gardner from Eunice, New Mexico. First of all, I want to reiterate that we are very disappointed that there is no consent-based siting meeting near my community which is close to ground-zero. WCS has already turned in its application to the NRC. They want some of that big money from the government. Whether or not this goes through or not, they're going to get some money. Eunice is the most affected community because this site is on the Texas side, five miles from my home.

The other site is in Lea County as well, – that's 50 miles from my home. With all the Hispanic people in the area, I still feel like it's an environmental justice issue. We have no vote – no voice in this matter.

My City Council in Eunice, who I've already checked with before I came here, has not given any consent. WCS came in and gave them a little presentation to tell them what they were up to. They did not give consent. We already have some of those exploding barrels of waste that came from Los Alamos that was supposed to go to WIPP – they're over there, just outside of town. By the way, they're being monitored by cameras.

A five-member committee from Andrews, Texas were the ones that made the decision to accept this high-level waste and to work on this project. The community of Andrews did not. The fact is, when Waste Control tried to get it a $75 million bond, the community was almost split down the middle. They lost by three votes.

I do not consent to high-level nuclear waste interim storage, nor the transportation of this waste anywhere in the country. Our lives in Eunice are no less valuable than someone at the White House; someone in Florida, New York or anywhere else. And if you people want to make a difference, you're going to find a permanent place that is safe because this stuff is supposed to be safe, but yet we can't have people within three meters of it? Think about the workers. Money cannot buy my vote. This is a no-consent. I dissent. I do not want the waste. [Applause].

Mr. Jim Hamilton. Thank you very much. Whatever order you feel would be appropriate.

Mr. Humberto Acosta. I should have brought my glasses. I have a pamphlet here, like I said, that was mass-mailed to every home in Andrews, Texas. Right here. And it says – I've got it upside down. You've heard all the rumors, now the facts.

Now, I'm going to read some of this stuff here. "Project Timelines: Fall, 2014: Initiate committee discussion on possibilities offered by Consolidated Interim Storage Facility (CISF) for spent nuclear fuel and high-level radioactive waste." "January, 2015: Andrews County Commissioners unanimously adopt resolution in support of hosting a CISF facility."

Four Commissioners in my opinion do not and should not have the power to vote on such an important issue for the whole country.

"February, 2015: WCS files Notice of Intent with the Nuclear Regulatory Commission." "April 28th, 2016: WCS formally submits a License Application to the NRC." "Summer, 2019: After a three-year license review, WCS expects to receive a CISF license." Is it a done deal? "2020: Construction of CISF." "2021: Begin operating Interim Storage Facility for dry-cask storage of spent nuclear fuel."

Now my understanding is that interim means temporary. Here, it says "Key Considerations: Interim storage is for a long time: 60 –100 years. Storage means above-ground dry-cask storage, which is different from our below-grade-level radioactive waste disposal operations. All SNF destined for storage will be received by rail at our site in Andrews County."

Now, all of this looks like a done deal to me. They have spent a lot of money on real pretty color brochures and the mass mailing. This past Thursday there was a full-page ad with the same stuff. I'm just a concerned citizen and, like I say, I live 35 miles from the waste dump there.

My concern too is that when Harold Simmons was alive, and he promised the citizens of Andrews that it would stay low-level, and now who's going to carry his banner now? We don't have any trust. We can't trust them anymore. So it's up to everybody's conscience what everybody does here. I mean this is a human issue; this is a moral issue; this is not a money issue and I beg your concern. Thank you. [Applause].

Mr. Jim Hamilton. Thank you.

Mr. Noel Marquez. My name is Noel Marquez. We are a group of New Mexico citizens representing the very humble people of Eddy, Lea, Otero and Travis Counties, and the West Texas County of Andrews.

We are very concerned about the future of our communities and the expanding production of radioactive waste from military wars and nuclear power plants and the government's plan to bring high-level radioactive waste to our region is a major threat to our health, air, water and lands. I am from Artesia, New Mexico, which is in Eddy County, about 60 miles north of WIPP. And it's home of the $600 million plus WIPP disaster, so when Mr. Conca said it was a minor thing; and $600 million, too, and still not open, it's not very minor.

So, as a community, mural artists – I work in the public schools with children and with the elderly in nursing homes, and I paint murals in neighborhoods where I use creativity to be a positive influence for the people. I am one of the few not threatened by job security.

So, in 1989 I did work as a drilling fluids technician for Westinghouse which was in charge of the WIPP project when they drilled the first pilot wells to core the geology of the WIPP area. During the WIPP PR Conference, I asked about the water-flow problem encountered in the test wells. The Westinghouse representative said there was no water above the salt section where they were to store the radioactive waste. I told the representative that I had worked on the Westinghouse #17 drilling operation which had encountered a major water flow above the salt section. He quickly changed his answer to, "Oh, we cemented that water-flow section with a Halliburton cement job." I realized then that the desperation of the radioactive waste industry was not going to be truthful and their pro-nuclear agenda was going to control the discussion to their advantage. And a major conflict of interest.

The government's billion-dollar Superfund and the nuclear industry's high-dollar public relations campaign encourages a false patriotic support for their toxic agendas on the backs of poor working-class citizens desperate for jobs. Which is 50% to 55% Hispanic in my town.

We have been excluded from the public dialogue entirely by the nuclear waste industry's safe-science PR. And all of this pushed forward by the local politicians. This environmental injustice intimidates local people from stepping forward and expressing their opinions as free citizens. Many of whom fear losing their job security remain silent.

We do not consent to being targeted by the DOE, the Department of Energy, and their nuclear contractors to claim our lands for what will become a permanent high-level radioactive waste dump. We are not a wasteland; nor are we a disposable people. We have been rendered invisible by these meetings, far from our threatened lands. And our voices ignored by the desperate radioactive waste political agenda. [Applause].

Mr. Jim Hamilton. Thank you very much. I've got two more speakers I believe. Yep. One, then two.

Ms. Karen Hadden. Good evening, my name is Karen Hadden. I'm the director of a nonprofit organization in Texas called the SEED Coalition: The Sustainable Energy and Economic Development Coalition. We are very concerned about people's health.

And, you know, we're getting mixed messages tonight from the panel. We're told, "Oh, well this waste is perfectly safe. There is nothing that can go wrong." And then we're told, "Oh, yeah, we may want to put it down into the deepest parts of the Earth or send it off into space." Why? If it's so safe, why can't it sit in somebody's backyard?

We've raised questions about the containers; the canisters and the source of the information and the concern is actually Dr. Singh, who was the President – I don't know whether he still is or not – of Holtec, who makes the canisters, who said even a tiny, tiny crack can release millions of curies into the environment, and you can read and listen to his presentation on SanOnofreSafety.org. So, you know, these concerns are not minimal. The concerns we raised tonight – they come from the DOE and from the NRC's own data. You know, a single shipment of this radioactive waste coming on a train, a single car – that car would contain more plutonium than the bomb dropped on Nagasaki.

Why should we put this stuff on the highways of the country? And it's not just Texas that's at risk, it's the whole country. Why should we ship that stuff just to store it together in one place? We don't we have a permanent repository yet? The science has not been done to get a real and honest repository that would keep this stuff safe and isolated for the millions of years that are needed.

So why should we ship it until we have that permanent site? If it ever moves, it should be one time. There is no reason for this. It's all economic. And we're being told tonight – I mean the path of lies is astonishing to me.

We are being told that this is to free up land so it can be used for other purposes. What, are we going to put amusement parks where there is all this radioactive waste that's been sitting for years that's leached into the soil? You know? We heard about sites that are contaminated. Well, yeah; and those nuclear sites – they are contaminated and they leaked tritium. What are we thinking and what are you saying? I don't really want to see amusement parks developed.

And I want you guys to know that the cleanup costs of an accident could be up to $620 million in a rural area and $9.5 billion to raise and rebuild the most heavily contaminated square of a major city. Okay, if you're talking a half-inch steel on the canister, you can have weaponry that just pierces that and they can threaten to pierce it in downtown Dallas – Fort Worth. Then what? They can hold you hostage. And it's the NRC documents quoted by the Texas Commission on Environmental Quality that say yes, the terrorism and sabotage risks increase as you put this stuff on the highway.

We do not consent. We do not approve of this process that is going around the real question which is do we have consent. That should be the question being asked here. You most definitely do not. In Texas, just last week, the Texas Democratic Convention passed a resolution and put into their permanent platform the language that said we do not consent to having high-level radioactive waste dumped on us, nor do we support its transport on our highways and that to me outweighs the comments of five people in Andrews County who signed a document.

Perhaps you've had a time when you didn't agree with President Obama. You know, maybe putting Obamacare into motion. Well, you know what? Five people in Andrews County can do something that no one agrees with; and now it's being taken as fact around the whole country by the DOE trying to get other states to dump on us. We say no. No consent. [Applause].

Mr. Jim Hamilton. Thank you very much. And our final commenter.

[Unidentified speaker]. So, we all know that high-level waste will probably go by rail. So if it comes from the West, it will go through the Navajo reservation; it will go through Gallup, where there is a majority of indigenous people; it will go through the Pueblos – all of those places that have been devastated by uranium mining. There's high levels of birth defects and so forth.

So when the high-level waste comes from the North, it goes down Route 285. It goes through a lot of small Hispanic communities that are already bearing the brunt of WIPP transportation. WCS has shipped their hottest waste down Route 285 through those communities. Most of those communities, or many of them, have volunteer fire departments. Several years ago there was a WIPP truck that ran off the highway north of Las Vegas, New Mexico, and the first responders were the volunteer fire department. Not one person had gone to a HAZMAT training. They didn't even have a radiometer. But because the driver passed out, they went in anyway and thank God there wasn't a leak. Even though the truck was in a precarious condition.

My family farm is in northern New Mexico near Los Alamos. Several years ago, the State Environmental Department came by and said that we had cobalt in our plums and cesium in our rock lake. It was, of course, all under regulatory concern. Also, one of our mountain lakes has so much cesium around it that it's close to being a – what is it called – a site where you have an EPA site…

Mr. Jim Hamilton. A Superfund site?

[Unidentified speaker]. A Superfund site. So the federal government talks a lot about environmental justice. I get e-mails about it all the time. So here is a wonderful opportunity for the federal government to walk their talk. You know, bringing high-level waste to New Mexico is the worst – would be the worst case of environmental injustice that I can think of. Also, Texas. Western Texas. We're all in the same boat – low income, very few resources and the love of the land and a love for life. Thank you. [Applause].

Mr. Jim Hamilton. Thank you very much. Okay, we're now going into the break. And before we do, I just want to talk about the small-group discussions. Take a look at your blue folder. On the top right-hand corner you're going to see a number. When you come back for the small-group discussions, we would like you to sit at the table that corresponds to that number – just so we can get a nice distribution of people.

The goal of these small-group discussions is to explore more deeply the issues you heard here today and tonight. There are no prescribed topics for this discussion; it's entirely your opportunity to go where you want to go with this. We do have a sheet of paper in the blue book that has some suggested themes to spark a conversation. The small-group discussions are facilitated by neutral facilitators. Can I have you stand up and identify yourselves? Their job is simply to help you have a productive dialogue. Thanks a lot.

At the end of this discussion period, which lasts about 80 minutes – and we've found them to be pretty energetic and lots of interesting ideas get shared here – there will be a report-back session, live, from the facilitators themselves; and these summaries will reflect your key issues; your recommendations. They will also find their way into a report from this meeting that then goes on the Department's website.

Following the report-out period, any more folks who want to have a public comment, please sign up on the sign-up sheet outside the Registration Desk.

And for those on the webinar; as we've experienced before, multiple small-group discussions do not make for good television. So we're going to put the webstream on pause.

From a time-check perspective, it would be great if we could all meet back here in 15 minutes at 7:35 PM. And for those on the webinar, we'll resume the webinar 80 minutes from now – what's the math on that? – an hour and twenty minutes from 7:20 PM. 8:40 PM, is that right? 8:40 PM Pacific Time – you're shaking your head. Sixty-five minutes? So what time do we resume? Do the math.

Alright, here we go. We're back here in 15 minutes at 7:35 PM. We are back, live, on the web stream at 8:55 PM. All right; we'll make it happen.

Thank you very much. We're adjourned.

Small Group Discussion Summary Session

Mr. Jim Hamilton. Welcome back, webinar folks. Welcome back, audience members.

Just as a check on the agenda – how this is going to work for the rest of the evening. It's a little before 9 PM. We're going to have report-outs from the small-group discussions and then we are going to move to a second Public Comment Period. And then we're going to have Closing Remarks and we're going to get out of here as close to 9:30 PM as we can to honor the schedule commitment we made to you early on.

So with that, report-out, take it away.

Facilitator 1 [Mr. Bill Olsen]. Thank you. Okay, my name is Bill Olsen, and I'm reporting from Table 1. And after an in-depth conversation, we narrowed it down to these five points.

So let me go through these. The first item here is that the local community must truly be educated and must truly be engaged. And there is a feeling that to some extent there's been a little bit of lip service to that. And based on socioeconomics; based on learning; based on culture; based on traditions; based on the expanse of the communities – big or large; metro or rural – and so a big effort needs to be included in this and part of this is not just the consent-based siting process; the CBS process, but right now in these meetings. More meetings, more locations – and the meetings must be site-specific to really engage those particular communities.

Next is all about fairness. And there was a strong discussion in this case. Fairness does not exist at all today. There's a pretty strong [sense] throughout my table that they feel it's not fair right now as to where things are now and this probably needs to be a huge effort to make it fair. And here it really needs to be location-specific. Some of the examples were: Whether there is a trauma center there or not? Whether they really have the means; the resources – is there an airport? Are there flights over that area? There's lots of things that really kind of crept into that.

The next one here is about Tribal Nations. And without getting too specific here, it's just so unique. Their lands; their traditions; their economies; their languages; their attitudes; their sacred sites – there are so many other elements that come into this, whether it's transportation near there, or a site that might impact their lands or their water, you really have to dig down and understand what's unique about that area. That needs to be included in the process.

The next one – that true local consent is much, much more important than distant consent. In this case, one of the things that was suggested was a weighted voting, so that the people who are close and most impacted – they would have a greater vote or a greater consent impact than those who are farther away as well as the people – the residents – the community – would have a significantly bigger vote then for instance the corporations that are involved.

Lastly, the last one here I really want to emphasize this: worst-case scenario planning. So some of the rhetoric the group felt is that all of this is an assumption that storage is safe; storage is secure. And they said the process should assume the worst-case scenario. What if it leaks? What if there is damage? What if there is even a little bit of a leak? And make the planning based on that. And then backfill. So worst-case scenario planning. So that's from Table 1.

Mr. Jim Hamilton. Thank you. Next table.

Facilitator 2 [Ms. Janice Neitzel]. Hi I'm Ms. Janice Neitzel, and at Table 2 we had a great discussion and came up with 10 charts of ideas. We came up with five topics that individuals chose for their point to be shared.

One is the education of the public. The public needs to realize that if it's Arizona's plants, Arizona needs to take care of our own nuclear waste with an option from one site to many sites as long as it's following federal regulations.

Another individual's point is if a community is going to volunteer to take waste, what kind of information is needed for informed consent?

Our third point is – is there a way to insert a neutral third-party to mediate among the factions? And so our example of the person is Ken Feinberg, who is an attorney who handled Katrina, 9/11 and is now working on Sandy Hook.

Our fourth point is – is there a way to figure out who people would trust to inform them? And in addition to that, respecting people's ignorance is important – that people don't need to become nuclear waste experts to participate.

And our last point is present and future generations guaranteeing intergenerational equity.

And those are points. Thank you.

Mr. Jim Hamilton. Thank you very much. Next table? I think that's you. You're up.

Facilitator 3 [Ms. September Spore]. Hello. Hi, everybody. My name is September, and we were at Table 4. I'm going to sort of pan the room because the camera is here, and you're all here. And just to let you know I'm going to sort of look a little robotic.

Our conversation was somewhat similar to the one that Bill's group had. We spent a lot of conversation and time really around the people-part of it and how you that would define community. There was a strong recognition that the process in involving people up to the point of selecting a site goes beyond that as well, right, into the future. And the most important thing is to maintain a strong, organic conversation with those communities and communities to find – that was one of the questions that we got into – how would you define a community? But what was most important was to make sure we have a very organic conversation with those communities: not just talking to, but talking with.

We spent a lot of time talking about the information that those communities would need and the amount of trust or what it would take to build that trust within those communities.

We had the pleasure of a couple people at our table who are representing individuals in the community, and so we had a good opportunity to ask "What would it take to get you comfortable to make this type of a decision?" And that was awesome to be able to ask those types of questions.

So we talked about making sure that the communities have bargaining power – I guess we'd call it up-front, early in the process – and that they are aware of what that bargaining power would be.

We discussed a little bit about what defines consensus – is it a supermajority? And what would that actually be looking like?

And then we talked about making sure that we give them the opportunity to go out and validate the information that some organization running this may be giving them statistics and then information; but to make sure that they have the ability to go out and validate that on their own.

But the group actually sort of had a side conversation, or another conversation, about – sometimes that doesn't even work. That there may be a secondary source that says it's going to give some independent information, but that actual secondary source is influenced politically. So there wasn't necessarily an answer to it, but a concern that it exists, but even when we get secondary sources for verifying information and statistics, that it still becomes a political problem for the actual potential host community.

And I believe that sums up the big picture of what we talked about at Table 4. Thank you.

Mr. Jim Hamilton. Thank you.

Facilitator 4 [Mr. Wayne Pendle]. Hi; I'm Wayne Pendle, with Leadership Strategies, Table 6. We met in the dark corner in the back, but we're bringing our content to the light here.

So several key things that they wanted me to express to you as far as their key topics.

A lot of great discussion was around funding. That was important to be able to bring funding and monies to local communities to be able to hire independent scientists about to validate things. To be able to give to tribes and the general public. We even had a discussion around the lack of funding around most of the first responders along many routes are the volunteer fire departments. And so being able to provide the $25 million that is appropriated to be used to be able to do this. So that a community can be truly informed through independent scientific research and other things.

They talked about, second, that a new agency needed to certainly be formed and it didn't need to have any DOE or NRC representatives – no conflict of interest in a truly consent-based siting agency moving forward.

The first topic of discussion that the group had was, "Who scheduled this hotel in Phoenix?" That was the first thing that was said. Because the point started to go into – if a community is truly going to give informed consent, there must be easy access to public meetings. It was brought to our attention that the public buses in Tempe don't even run here – they don't work here. So the access; people having to walk up this hill to this facility, so they gave some great ideas around that; but not only have those in communities that are affected, but logistically be smart about doing that. That's going to get the majority of people that need to be involved in this process access to this information; access to these public meetings.

Fourth one – publicly financed elections are the only way to accomplish this. That whatever money is being put out by industries to come in and perform host sites needs to be at least the same amount of money by those that are opposing that. So that there can be marketing; there can be billboards; there can be flyers to inform the public that this is coming or at least some cap on the amount of money that is being spent by outside industries inside of a community, so that was a lot of energy around that topic.

And lastly, a full disclosure to all communities, in layman's terms, of the risks that are involved with being able to transport or store spent nuclear fuel or high-level radioactive waste in their communities. And that goes back to the funding that really tied in with access, so there was great themes around – it needs to be grassroots; it needs to be the local petitioned – not just three or four elected officials – but this impacts the entire community, but they must be educated through access and that way informed consent can truly happen at those sites. And so thanks to Table 6. Okay, Jim.

Public Comment Period

Mr. Jim Hamilton. Alright. And as in our previous meetings, there is going to be a summary report written reflecting a more detailed understanding of these small-group discussions that will be posted on the Department's website shortly.

So we are now going to go into the second Public Comment Period. We've got about 22 minutes left before 9:30 PM. I've got 13 people who've signed up. I recognize some of the names who've already spoken, so in the interest of fairness, I'm just going to ask – I'm going to read the list, and if you've

already spoken, raise your hand, – you'll have a chance to speak, but I want to let those would have not made a comment yet be the first ones.

So I've got Karen Hadden [Karen: "I've spoken"]; okay, Steven Brittle, okay; Rich Baker [Rich: indicates he will not speak]; okay, we're going down the list; William Snyder; alright; Lon Burnam – you've spoken, okay; thank you; Janet Greenwald [Janet: "I've already spoken"]; okay; we could be leaving this meeting early, on the way things are going; Robert A-L-Y; I don't know how to pronounce the last name; You're good? Alright, thank you. Rose Gardner; you're done? Alright. Thank you, Rose. Holly Woodward; do you want to come and say anything more? Okay. Thank you. Humberto Acosta; alright; Noel Marquez [Noel: "I'm here but I gave my talk."]; alright, thank you Noel; Leona Morgan; alright and – I can't read the last one; I apologize; the last name is V-o-g-a-n. Would you like to speak? Come on up. Oh I'm sorry, are you Leona? I apologize. Alright. Welcome.

Ms. Leona Morgan. Good evening. My name is Leona Morgan. And I started an organization called Diné No Nukes. I'll just introduce myself properly. [Ms. Morgan introduces herself in *Diné Bizaad,* the native language of the Navaho Nation]. So my family is Diné or Navajo. And so the organization I started – it was because of the legacy issues Diné people are still dealing with. We still have a legacy of uranium mining in our communities, which is the health effects; the lack of clean-up of over 500 abandoned uranium mines and contaminated water, and so one. And that's not mentioning the 15,000 abandoned uranium mines across the nation.

My family has suffered – I've lost relatives and people have had different types of cancer and kidney disease due to uranium mining and so, I guess uranium mining – the point I'm trying to make is that we're still dealing with the cleanup of uranium mining from so long ago and now we're talking about this interim waste place and I don't think DOE can say that we're finding – I don't think that the interim storage should be considered a solution to the waste problem. So, I know, on the other end of the spectrum, there's folks saying – there's challenges to the clean power plan because the nuclear power waste has not been dealt with and so because interim storage is not a long-term – it's not a solution to the waste problem, so we can't say that interim storage is a solution to the waste, and therefore we can keep making waste. And so we need to stop making nuclear waste, either through – we need to stop producing it at nuclear power plants and then also through the weapons complex.

And so basically also I wanted to talk a little bit about the Navajo Nation law that prohibits – we have a law called the Diné Natural Resources Protection Act which prohibits uranium mining or processing on our lands. That was passed in 2005. And then we also have another law called the Radioactive Materials Transportation Act that was passed in 2012 that prohibits the transport of nuclear and radioactive materials through the Res. However, we do not have jurisdiction on I-40 or all the state highways and so it's impossible for our Nation to enforce that law because you all will be transporting waste through our Nation, which we do not consent to. I do not consent to that.

And so some of the other comments I wanted to make is that – we were talking about fairness and I do not consent to or agree with the government putting the burden on taxpayers for paying for the waste storage when the companies who created the waste, and profited off the waste, profited from the production of that waste, don't have to deal with it anymore. I mean it's just – it's going to become our burden as taxpayers and ratepayers, but what happens to the companies and why aren't they being held accountable?

So lastly, basically the consent-based siting process altogether is not considering other documents that have been passed to protect the rights of indigenous peoples such as the United Nations Declaration on the Rights of Indigenous Peoples and also there's a new one that should be – that has to be considered – which is the Organization of American States' American Declaration on the Rights of Indigenous Peoples.

And so I think I've got one more minute, but those are basically all the points. Our communities do not consent to waste being transported through our Nation. We do not consent to the possibility of nuclear disposal sites near any of our sacred places or transported through or stored at places that may affect water; traditional resources such as plants and animals; archaeological sites and – so I'm speaking as a Diné person, but earlier Janet mention the Pueblos – a lot of the waste would be transported through, if it comes to New Mexico, there's 19 Pueblos and there's over 500 tribes in the United States. About 565 or 566. And so each of those need to be considered, and DOE should do this type of meeting at all of the federally recognized tribal locations, whether or not they requested, because DOE has said to me before, "Well, they didn't request it."

You need to go to the community and do these types of outreach meetings over time. Not just one, but to develop a relationship – go there, explain this stuff, and come back multiple times. At all of the Tribal Nations in the entire country. Okay. Thank you. [Applause].

Mr. Jim Hamilton. So the last speaker I have on my sheet is the surname is V-o-g-a-n. Would that be you?

Ms. Edwina Vogan. Edwina.

Mr. Jim Hamilton. Edwina.

Ms. Edwina Vogan. Thank you. I'd just want to acknowledge Leona and say that I have been up on the Reservation numerous times to be in support of the tragedy that has occurred with the land, water and the people up there, and I want to say that I apologize for what has been done in our name. And my name, even though I may not have been there.

I would just say that I probably don't want to reiterate a number of points that have been made this evening on transport; on current technology; on whether we're finding the solution for further nuclear power sites or nuclear generation – but what I would ask, and I asked in our table discussion is – I think we're rushing to judgment on having one site, and I'm not saying that we have to have many sites, but certainly I would ask a couple of questions that – with the plants that are being shut down and those that are already shut down, what is the likelihood of an accident? Are we in a critical mass to have one site? Can we somehow, you know – we're talking about educating the public; we're talking about nuclear issues; nuclear waste issues; spent fuel; what are the isotopes – all the elements of this discussion, as well as what does the public think now? What's going to happen in the future? Who is going to take care of all the stuff for thousands of years? We've seen the track record so far. Can we do better than that?

So my fundamental question is: Why do we need a site right now? Is it imperative? Can we go back and think about this and say maybe there's another option. And I'd just like to end with that comment. Thank you. [Applause].

Mr. Jim Hamilton. Thank you very much. So that wraps up the Public Comment Period. Yes sir.

[Comment from audience]: I did actually speak during the Public Comment Period, but wanted to follow the people who hadn't spoken.

Mr. Jim Hamilton. I'm sorry, I thought you had said you had already spoken and you chose not to speak this time. If you want to speak now [motions to front of room].

The Honorable Representative Lon Burnam, Texas (Ret.). I'm Lon Burnam and I introduced myself a couple times already this evening. I was born in Artesia, New Mexico in the Pecos River basin, but I spent most of my life in Fort Worth; most recently I've spent 18 years representing a majority-minority Hispanic community in the inner city of Fort Worth and I want to submit for the record a little map.

At the top of the page is the Continental United States, where you can see where most of the waste is generated. Not in Texas. Not even in the Western part of the country. But what we're talking about doing is dumping all of this waste in Andrews County, Texas, and in order to do that, you're either going to bring it on rail or road and we haven't determined that yet, but it's going to go through the community that I've lived in all my life – Fort Worth, Texas. This is I-20 and I-30; oh, some of it from the southeastern part of the country will come through Houston and San Antonio.

None of these communities have a ***clue*** what you're talking about doing to them as far as transport. They've only been informed by those of us that are oppositional to the idea of making Andrews County the final dumping ground for all the nation's commercial high-level radioactive waste.

DOE has not done its job, at all. And clearly we've already heard the comments on the lack of access to these hearings around the country, so I won't belabor that point, but I want to submit this map, because I just want to remind you where the crap came from and where you're trying to put it. You're trying to put it in low-income minority communities in West Texas or New Mexico.

Here's the other map which I alluded to, but I just want to make sure that everybody understands – there is a lot of water underground in these dry areas. Specifically, the Ogallala Aquifer was under the WCS waste site, up through the end of the 20th century, but when they re-drew the maps, possibly at the request of Harold Simmons of WCS, it's a few miles north of the facility.

Now you couldn't prove it by me who's been on site and seen the pumping that they are doing to remove the water that at the site. Now some people, depending on what technology you use, may think that that's not a concern, but the concern is ***that site***. And how we got to that site and what laws may have been broken in the process and what lies have been told in the process.

So, I just want to ask you guys to take into consideration maybe just because it's dry on the surface doesn't mean it's a good idea to do it.

So, to just wrap up real quickly. A lot of this in my experiences with DOE and NRC is very Orwellian and I think the turn of phrase "interim storage" is about as deceptive as it comes and dishonest in communications, because we all know that we've had 71 years to figure out what to do with the mess that we've created by opening Pandora's box, and we still haven't figured it out.

And so now we're talking about how the resistance will be less in the low-income minority communities in West Texas and New Mexico than in other places in the country. It is not interim storage. It is

dishonest to talk about it that way. Maybe we'll have another hundred years. Maybe we'll figure out – but in the short term, the long-term is going to be there.

I particularly resent the mission creep, because sometimes you think you should kind of rely on your national laws. The Compact concept was such that no state would ultimately be the nation's dumping ground. And we're talking about violating the concepts behind the Compact State provisions. The Compact States – Texas willingly went into agreement with Vermont and Maine and said we would manage your waste – said literally in our law that we would manage the economic fiscal impact of this, but through mission creep, since the passage of legislation in 2003, we are taking on more and more low-level waste from more and more states. Every Compact Commission meeting that is held – and there's one next week in Austin – they have mission creep. And now you're asking us to take on the entire nation's commercial waste. No consent, Dallas-Fort Worth. No consent, Houston. No consent, San Antonio. And as was mentioned earlier, the Democratic Party in Texas in the Statewide Convention said "No consent." We don't want to be your host. [Applause].

Mr. Jim Hamilton. Alright. You can bring us home, Karen.

Ms. Karen Hadden. Thank you. I'm Karen Hadden. I'd just like to add a few comments; I did speak earlier, but Mr. Burnam brought up some important points and I'd like to add a little bit to that.

In terms of water at the site, WCS acknowledges the presence of the Dockum Aquifer and the OAG which is the Ogallala/Antlers/Gatuna Formation, and you hear the word Ogallala in there, and they now claim that the Ogallala is about 10 miles to the north – they once claimed it was 6 miles to the north and previous maps show it underneath the site, until the maps got changed by the Texas Water Development Board.

If this aquifer, which is underneath eight states – it's in the central region of our nation: the wheat-growing region; the soy-growing region of the nation – should it become contaminated, we would have serious problems. Is this concern real? Well, the eight people at the Texas Commission on Environmental Quality who were looking at this in the Radioactive Waste Division, said "Yes, it is." And they recommended denying the license for this facility at the start. They said the site was too close to water and they said that they were very concerned about the contamination of water.

Three employees at the TCEQ felt strongly enough that they resigned their positions with the agency over this very issue, and concerns of water contamination. One of those folks resigned even though he had cancer and he lost his medical benefits and had a difficult time getting treatment later. But it was that important to him. And they said "Look, the water is too close underneath the site."

Our organization has gone into the documents and records submitted by WCS. We have taken up the monthly water reports and analyzed them and over an eight-month period we found an average of 40% of the monitoring wells had water present – they were saturated. This site is supposed to be dry. That is what is supposed to make it safe. You're supposed to keep this stuff isolated. There is nothing good about this site. It's in an area where there is fracking. Who knows if we'll see earthquake activity in the region. There are wildfires that have come right by the south end of the site and the weather can be very, very extreme, and incredibly hot, and sometimes in some years incredibly intense storms, and as Mr. Burnam

mentioned, we were out at the site and we saw containers that were getting wet that are supposed to never, never happen.

So we are very concerned about contamination – potential contamination of a ***major*** aquifer – ***the*** major aquifer in the United States. We are concerned about transportation on highways and especially railways across the whole country. And the risk that is increased when you put this on the highways or railways of sabotage – of terrorist action. These things are real today, unfortunately, in our world. And the sources that we lean on, the TCEQ Report, tells us that you're increasing the risks by putting this on the highways or railways.

So, no there is no urgent need to move this material. It should stay where it is secured in dry cask storage until such time as there truly is a scientifically defined safe repository. And Dr. Arjun Makhijani has said we need at least 10 years of intense scientific study before we can determine if such a site exists. Until that time, we shouldn't be moving it and we should be looking at the integrity of the canisters, and of the casks. And we should be looking at the inspections and making sure that good protocols are put in place for inspecting what's already out there at various sites around the whole country.

We need to start getting real information and we are tired of being told half-truths. We're tired of being told, on the one hand, how incredibly dangerous this material is, and then having people say "Oh, it's totally safe." That does not fit together. It does not mesh. That does not make sense. We know how dangerous this material is. We know how risky it is. And we don't want it.

And the people in Texas and New Mexico didn't do anything wrong; didn't do anything to harm the people around the rest of the country, and we do not want to be the dumping ground for the nation's high-level radioactive waste. We resent the fact that the DOE is taking the word of just a few people – the Commissioners in Andrews County and the Mayor in Carlsbad, and calling that consent, when the Texas Democratic Party passed this as a whole state party in San Antonio last week – that was thousands and thousands of people. That's the voices of many, many people. And we do not consent. And we want that message loud and clear, and we want an end to the fact that this is being portrayed around the rest of the country that we want this waste because ***we do not***. We do not consent. [Applause].

Closing Remarks

Mr. Jim Hamilton. Thank you very much. So with that, unless I've missed anybody, we've wrapped up the Public Comment Period. And now I'm going to turn it over to Mr. Andrew Griffith, the Associate Deputy Assistant Secretary for Fuel Cycle Technologies, to offer his closing remarks. Andy?

Mr. Andrew Griffith. Thank you, Jim. And on behalf of Secretary Moniz, John Kotek, and the entire Consent-Based Siting Team, I want to thank all of you for participating in this public meeting today.

Yet again, this is proven an excellent venue to exchange ideas; to present our program, and to collect your inputs on what we believe is a tremendously important and challenging issue that's facing our nation.

This challenge is facing our nation, and so we want to start this with a national dialogue. And so this is the sixth in a series of eight public meetings around the country to have that dialogue. And we can't do it

without your participation, so again thank you, especially in the extreme heat of making your way here today, so we really appreciate that.

So, what are we trying to do? We're trying to develop the concept of an integrated waste management system which includes interim storage of spent nuclear fuel and disposal facilities for high-level waste and spent nuclear fuel as well as an underpinning transportation system that can help solve this problem that our nation faces.

And how do we propose starting with this process – or starting the development of the system?

It's founded on consent. And the consent has to be genuine. And the consent has to be between mutual, on-the-same-level partners, and you can't do that arbitrarily, as John Kotek pointed out in his remarks, we believe history proves that if you do a top-down approach – if we impose this on some community, on some state, on some tribe – that it's doomed for failure. We believe that the only way we will be successful, like some of those international efforts that John pointed out – the only way it will be successful, is if we start a discussion with a willing and informed host community, state or tribe and get the process going.

So part of this is having communities, states or tribes step forward and express a willingness to have this conversation.

And what are some of the elements of this conversation? Well, clearly the inputs that you have given us today – they resonate with themes that we've received elsewhere around the country, so there's a lot of national themes here. But there's also some regional nuances that you also brought to this conversation and we thank you for that.

The national themes – they deal with trust, clearly. The Department, as well as the federal government, is operating at a trust deficit. The need to have a fair, transparent process – we get that. Very important.

Environmental justice. Again that's one of those significant priorities of our program going forward. If you looked at our other meetings, we had representatives to voice the importance of environmental justice on just about every one of our panels. It's fundamental to any what we believe is going to be a successful solution.

So, there have been some suggestions that we have some kind of pre-determined outcomes here; specifically, those privately-funded initiatives in southeastern New Mexico and West Texas. Let me be very clear. Those initiatives started independent of the Department. They recognize the national need and they saw – these are entrepreneurs – who saw a business opportunity to get started. And they may end up playing a role in our process. We don't know that yet. Because our process was just starting when they were starting and there might be a way of making them blend in between – but there ***may not be a way***, because our process ***has to start*** with a community, a state and a tribe stepping forward and offering to have a conversation with us – with no initial commitment; just an open mind and a possibility that we might find out a way where they could play a significant role in helping us solve this major national challenge. It's not going to solve itself.

And from our part, we would want to encourage that conversation with information and we've got a lot of information. Certainly, not enough that we can share it with you tonight. But we have a lot of information on some thinking that we've done on possible solutions.

But we don't know anything. We recognize that. And we don't expect any community, state or tribe to just take what we tell them and accept it on face value. We expect them to do their own homework and we're willing to give them, if, as John pointed out also, we requested some funding from Congress; hopefully we will get appropriations which will enable us to provide grants to these communities, states and tribes so that they can do their homework; they can engage with independent experts and they can come to us and have an informed conversation independent of what we are telling them so that we can start to build this partnership. Because the only way we are going to solve this problem is if we're able to start up a partnership and make it a durable partnership based on common trust and common understanding so that they can play a role in helping us solve this challenge.

So with that, let me just leave it there; thank you again for coming out. I hope you all have a safe trip home, especially to those that traveled from out of state. We recognize it's tough. We have the video, the webcast so hopefully you can connect in with our final two meetings in Boise and Minneapolis.

We want this to be a phased and adaptive process going forward, so these are not the last public meetings we're going to have this year. We're going to be having public meetings to the time until this process is successful and it is complete – which means forever. Because this is a millennial challenge that has to be solved.

So, this phased and adaptive process – we have to learn together as we go so we can find a durable solution.

Thank you again. Have a good evening. [Applause].

Mr. Jim Hamilton. Thank you, Mr. Griffith. Thank you, panel members. Thank you, audience; both here in Tempe, and on the webinar. Thank you, logistics people – camera, audio folks.

Really appreciate all of your collective work today – it was very valuable. Please don't forget to pass in your meeting evaluation forms. We read those – we listen to them; we learn – we make our meetings better.

This wraps up the formal part of the meeting and the webinar will now close. For those who wish to join the informational poster session in the back, please do so.

Thank you, again. We are adjourned. Have a good evening.