CONSENT-BASED SITING

Designing a Consent-Based Siting Process

Summary of Public Input

Draft Report

September 15, 2016

U.S. DEPARTMENT OF ENERGY

TABLE OF CONTENTS

Table of Contents 1
1. Introduction 3
1.1 Background 3
Brief History 3
Integrated Waste Management 4
Consent-Based Siting 4
1.2 Approach 5
Invitation for Public Comment and Public Meetings 5
Public Meetings 5
Additional Opportunities for Engagement 6
1.3 Purpose of This Report 6
1.4 Other Inputs To Inform the Design of a Consent-Based Siting Process 7
Note to Chapters 2–4 9
2. Major Themes Related to Consent-Based Siting for Nuclear Waste Facilities 11
2.1 Views on Consent-Based Siting, on Efforts to Develop a Consent-Based Approach, and on the Need for Action 11
2.2 Views on the Nature of Consent 14
2.3 The Meaning of "Informed Consent" 19
2.4 Equity, Environmental Justice, and the Meaning of Voluntary Consent 21
2.5 Intergenerational Equity and the Durability of Consent 22
2.6 State, Tribal, and Local Control as an Element of Consent 24
2.7 Trust and Credibility 26
2.8 Views on the Need for a New Waste Management Organization 30
2.9 Perspectives of Tribes 31
2.10 Transportation 35
3. Views on Designing a Consent-Based Siting Process 41
3.1 How Can the Department Ensure the Process for Selecting a Site is Fair? 41
3.2 What Models and Experience should the Department Use in Designing the Process? 43
3.3 Who should Be Involved in the Process for Selecting a Site, and What is their Role? 46
3.4 What Information and Resources Do You Think Would Facilitate Your Participation? 50

3.5 What Else should Be Considered? 54
4. Other Topics 56
4.1 Views on the Role of Nuclear Energy 56
4.2 Views on Consolidated Interim Storage and Current On-Site Storage Arrangements 57
4.3 Perspectives from Current Host Communities 60
4.4 Views on Geologic Disposal 63
4.5 Views on the Linkage between Storage and Disposal 64
4.6 Views on Yucca Mountain 64
4.7 Views on the Need for a Separate Repository for Defense Waste 66
4.8 Views on Current Private Efforts to Develop Consolidated Interim Storage Facilities 67
4.9 Views on Federal Funding for Nuclear Waste Management 70
4.10 Additional Topics 71
5. Look Ahead 72
5.1 Initial Draft of a Consent-Based Siting Process 72
5.2 Development of Facility Siting Considerations 72
5.3 Supporting Engagement Through Outreach, Information, and Funding 72
6. Appendices 74
Appendix A – Copy of Invitation for Public Comment and Extension 74
Appendix B - List of Consent-based Siting Meetings 79
Appendix C - Public Perspectives on Waste Storage and Disposal: An Overview of the Energy and Environment Survey Series (2006–2016) 81

1. INTRODUCTION

1.1 BACKGROUND

Nuclear technology has been used in the United States for decades for national defense, research and development, and electric power generation. These activities have produced spent nuclear fuel (SNF) and high-level radioactive waste (HLW). Commercial electricity generation has produced the largest amount of SNF (approximately 75,000 metric tons at the end of 2015) and continues to generate SNF at a rate of approximately 2,000 metric tons per year. HLW, almost all of which was generated by defense nuclear activities, accounts for the next largest portion of the overall inventory: roughly 90 million gallons of HLW liquids, sludges, and solids.

Most SNF and HLW is currently stored at the locations where it was generated (commercial reactors and DOE-managed sites respectively). It is widely accepted, both nationally and internationally, that deep geologic disposal is the best option for achieving safe, long-term isolation of these radioactive materials from the environment. To date, however, the United States has failed to establish such a facility. Although any number of locations around the country offer potentially suitable geological conditions for a disposal repository, the more intractable challenge thus far has been siting such a facility.

BRIEF HISTORY

The United States Congress endorsed geologic disposal in the Nuclear Waste Policy Act of 1982 (NWPA), which provides the basic policy framework for U.S. efforts to manage nuclear waste. The Act establishes procedures for evaluating and selecting sites for geologic repositories and sets key milestones for federal agencies to meet in implementing the policy. Following passage of the NWPA, DOE studied several possible repository sites. In 1987, Congress amended the NWPA to require DOE to characterize only the Yucca Mountain site in Nevada and to phase out site-specific activities at all other candidate locations. Years of delay, litigation, and controversy followed before DOE formally recommended the Yucca Mountain site to the President, the President recommended the site to Congress, and Congress approved the site in 2002—four years past the date when DOE was supposed to begin accepting commercial spent fuel for disposal. The State of Nevada strongly opposed each of these steps and the choice of the site remained highly controversial, with numerous legal and technical objections raised throughout the site evaluation and license application process. In 2009, DOE determined that a geologic repository at the Yucca Mountain site was an unworkable option.

In 2010, the Blue Ribbon Commission on America's Nuclear Future (BRC) was formed at the request of the President to develop recommendations for a long-term strategy to manage the nation's nuclear waste. After conducting a comprehensive review of waste management policies and practices, both in the United States and abroad, the BRC issued its final report in 2012. The report included eight recommendations, which included using

a "consent-based" approach to site waste management facilities. Drawing on the BRC's recommendations, the Administration issued its Strategy for the Management and Disposal of Used Nuclear Fuel and High-Level Radioactive Waste (Strategy) in 2013. The Strategy included the recommendations to pursue consent-based siting. The Department is undertaking activities within existing congressional authorization to do what it can, consistent with the Strategy. These activities, such as developing plans for consent-based siting processes, are designed to avoid limiting the options of either the Administration or Congress.

INTEGRATED WASTE MANAGEMENT

As outlined in its 2013 Strategy, DOE is planning for an integrated waste management system to transport, store, and dispose of spent nuclear fuel and high-level radioactive waste. The Department envisions an integrated waste management system consisting of a set of nuclear waste facilities, each serving a specific purpose, to address the challenges of safely managing both SNF and HLW. These nuclear waste facilities could include:

- A pilot interim storage facility with limited capacity capable of accepting SNF and HLW and initially focused on serving shutdown reactor sites;
- A larger, consolidated interim storage facility, potentially co-located with the pilot facility and/or with a geologic repository, that provides needed flexibility in the waste management system and allows for important near-term progress in implementing the federal commitment;
- A permanent geologic repository for the disposal of defense HLW and, potentially, some DOE-managed SNF;[1] and
- A permanent geologic repository for the disposal of commercial SNF.

We are also investigating the concept of deep borehole disposal, which potentially could be an option for disposal of smaller and more compact waste forms currently stored at Department of Energy sites.

CONSENT-BASED SITING

As the Department moves forward with planning for an integrated waste management system it is committed to using a consent-based approach to siting that is built on collaboration with the public, stakeholders, and governments at the local, state, and tribal levels. The Department plans to develop and implement this consent-based siting process in multiple phases. **The first phase** involves engaging with the public and interested parties to learn from them what elements are important to consider when designing a consent-based siting process. This report documents public feedback obtained from this

[1] On March 24, 2015, President Obama authorized DOE to move forward with planning for the development of a separate repository for high-level radioactive waste resulting from atomic energy defense activities. Establishing a separate repository for defense high-level radioactive waste would represent significant progress toward addressing the Federal government's Cold War legacy, as well as meeting the government's obligation to manage the nation's radioactive waste.

input-gathering effort. The inclusion of specific comments in this report, however, should not create an expectation that the draft process will incorporate all suggestions. The comments express a wide range of viewpoints – some of which are contradictory or fall outside of existing legal authority. In the **second phase** of this effort, DOE will focus on designing a consent-based siting process to serve as a framework for collaborating with potentially interested host communities. In subsequent phases, the Department will use the resulting consent-based process to more deeply engage and partner with interested communities and ultimately begin siting facilities.

1.2 APPROACH

As part of the first phase of the consent-based siting effort, the Department is engaging with the public and interested parties to learn from them what elements are important to consider when designing a fair and effective consent-based siting process. This engagement effort has thus far consisted of several major components described below.

INVITATION FOR PUBLIC COMMENT AND PUBLIC MEETINGS

To launch the consent-based siting effort, DOE issued an "Invitation for Public Comment to Inform the Design of a Consent-Based Siting Process for Nuclear Waste Storage and Disposal Facilities" in the *Federal Register* on December 23, 2015. The Invitation for Public Comment (IPC) included five questions for the public to consider when providing input:

(1) How can the Department ensure the process for selecting a site is fair?
(2) What models and experience should the Department use in designing the process?
(3) Who should be involved in the process for selecting a site, and what is their role?
(4) What information and resources do you think would facilitate your participation? and
(5) What else should be considered?

The comment period was open through July 31, 2016 (a copy of the Invitation for Public Comment is available in Appendix A).

PUBLIC MEETINGS

In parallel with receiving input through the Invitation for Public Comment, the Department hosted eight public meetings around the country. At these meetings, which were held in geographically diverse locations, the Department had an opportunity to hear first-hand from members of the public, communities, states, Tribes, and other interested stakeholders on what matters to them as DOE moves forward in developing a consent-based siting process. Meetings were held in major cities across four regions: the Northeast (one meeting), the Midwest (two meetings), the West (four meetings), and the South (one meeting). These meetings were designed to encourage participation and to provide multiple opportunities for public input and two-way dialogue. Each meeting included eight

major elements: (1) Welcoming remarks from a local or regional authority; (2) a presentation by DOE's Acting Assistant Secretary for Nuclear Energy John Kotek describing DOE's commitment to developing and utilizing a consent-based approach to siting; (3) remarks from panelists; (4) a question-and-answer period in which members of the public had an opportunity to ask questions of the panelists; (5) facilitated small-group discussions (using independent facilitators) that enabled individual participants to engage more closely on topics related to consent-based siting; (6) summary reports from the small-group discussions; (7) a public comment period that afforded members of the public the opportunity to make formal comments to the Department; and (8) an open house and poster session prior to and after the meeting during which attendees and DOE representatives had additional opportunities to engage in conversation. The meetings were streamed live in a webinar format and a limited number of questions from webinar participants were posed to the panelists (more questions were posed by in-person attendees). A complete list of these public meetings, including agendas and dates, is provided in Appendix B; agendas, transcripts, video recordings and summaries of small-group discussions can be accessed at energy.gov/consentbasedsiting.

ADDITIONAL OPPORTUNITIES FOR ENGAGEMENT

In addition to the Invitation for Public Comment and regional public meetings, the Department used other opportunities—including conferences and professional meetings—to engage in dialogue with stakeholders and members of the public on the design of a consent-based siting process. In addition, DOE welcomed and accommodated requests, where possible, for additional meetings to discuss its consent-based siting effort. A full list of these conferences and additional meetings is provided in Appendix B.

1.3 PURPOSE OF THIS REPORT

The successful siting of nuclear waste management facilities, through a consent-based process, is predicated on a robust and transparent dialogue between the Department and its stakeholders. From December 23, 2015 through July 31, 2016, DOE solicited and received public comments and heard input from a wide range of individuals, communities, states, Tribes, and stakeholders through the multiple avenues described above. Over this period, DOE received approximately 450 unique pieces of correspondence and over 10,000 form letters providing a wide range of input, thoughts, and perspectives on consent-based siting, waste management, and nuclear energy.

The purpose of this draft report is to summarize the major themes that emerged from the regional public meetings, from other interactions with stakeholders at meetings and conferences, and from responses to the Invitation for Public Comment. The draft report also attempts to reflect the breadth and diversity of views expressed and topics identified to date by meeting participants and commenters. Given the volume of input gathered, this report could not and does not attempt to reflect every comment or opinion the Department received or heard during this initial phase of its public engagement effort. Rather, this draft

report offers an overview of what DOE heard and includes a selection of direct quotations, from written comments and meeting transcripts, that are intended to reflect the different perspectives and often strongly held views of a large and diverse group of participants. This draft report does not attempt to respond to or assess the validity of the comments DOE received nor does it propose a framework or model for conducting a consent-based siting process. Planned next steps in the consent-based siting effort are discussed in Chapter 5.

To review and organize the input received, the Department relied on a team of federal, national laboratory, and contractor staff with diverse backgrounds and experience in legislative, policy, regulatory, technical, transportation, siting, and stakeholder outreach disciplines. Report contributors attended, took notes, and answered questions during each of the eight consent-based siting public meetings and many staff members also attended the meetings listed in Appendix B.

In an iterative process, comments from correspondence as well as from public meeting transcripts were grouped into categories in order to organize information and provide an outline for writing this report. Quotes were selected that represented the major themes and diversity of viewpoints expressed by commenters, meeting participants, and stakeholders. Additionally, input from the meetings listed in Appendix B and from the consent-based siting public meeting small-group discussion sessions was used to help inform the organization of the report and validate the scope of its contents.

To finalize this report, the Department will consider all comments received on this draft and issue an updated final report in December 2016. Ideas captured in this report and through other forms of engagement with the public and interested stakeholders will aid DOE in developing a draft consent-based siting process.

1.4 Other Inputs To Inform the Design of a Consent-Based Siting Process

The Department is following efforts by other organizations to address the subject of SNF and HLW management and disposal including recent studies by the Bipartisan Policy Center's Nuclear Waste Initiative and the Reset of U.S. Nuclear Waste Management Strategy and Policy by the Stanford Center for International Security and Cooperation. DOE is also tracking the progress of international waste management organizations.

In addition, DOE continues to fund research by the University of Oklahoma to analyze public perspectives on nuclear waste storage and disposal and consent-based siting. This effort has been ongoing for several years and is summarized in Appendix C. In 2016 DOE funded a report by the Social and Environmental Research Institute (SERI) on the topic of

consent and how consent may be play a role in the siting of nuclear waste facilities.[2] The report is available at the SERI website www.seri-us.org.

In support of continued broad public engagement, DOE has contracted Arizona State University to lead a project of the Expert and Citizen Assessment of Science and Technology (ECAST) network to design and assess five citizen forums aimed at obtaining additional feedback to inform the design of a consent-based siting process. The ECAST forums will engage a diverse group of citizens in an informed, peer-to-peer, facilitated discussion of values, priorities, concerns, and perspectives about consent-based siting. For more information about this project, please visit energy.gov/consentbasedsiting.

Findings and recommendations from the above organizations and studies, lessons learned from U.S. and international experience, and stakeholder input summarized in the final version of this report will help inform the effort to develop and revise a draft consent-based siting process.

Although this report aims to summarize DOE's early effort to gather input from the public and interested parties on the subject of consent-based siting, it is important to emphasize that DOE's commitment to engagement and dialogue is ongoing. That means that DOE will continue to welcome input and create opportunities to listen and learn from the public and stakeholders on the best ways to design and implement a durable consent-based siting process.

[2] Tuler, S. and Webler, T. 2016. "Understanding consent: Principles and challenges for a consent-based process to site facilities for interim and long-term storage of spent nuclear fuel and high level wastes in the United States." Northampton, MA: Social and Environmental Research Institute.

NOTE TO CHAPTERS 2–4

The next three chapters of this report (Chapters 2–4) summarize the input DOE received in response to its Invitation for Public Comment. This summary includes written comments submitted to the Department, as well as oral comments made at regional public meetings. (Oral comments include the oral comments made at regional public meetings, suggestions made during small-group sessions and question-and-answer sessions at the meetings, as well as statements by session panelists and presenters.) Comments and suggestions heard by DOE in other meetings and conferences (listed in Appendix B) were also considered in developing this summary.

Given the volume of input received and the cross-cutting nature of many of the topics addressed, the challenge of organizing and summarizing this material was considerable. The Invitation for Public Comment included five questions concerning specific issues to be considered in designing a consent-based approach to siting future nuclear waste management facilities. The Department did not specify a particular facility that would be the subject of a consent-based siting process. Rather the intent was to solicit input on some generic features of a siting process or framework that could be applied to a variety of facilities, potentially including a pilot interim storage facility; a larger, consolidated interim storage facility; a deep borehole disposal facility; and a permanent geological repository.

Not surprisingly, input from this first phase of DOE's consent-based siting process—both in response to the Invitation for Public Comment and in discussions at meetings and conferences—encompassed a much broader range of topics, including (but not limited to) U.S. energy and climate policy, the role of nuclear energy, current practices for storing nuclear waste, views on Yucca Mountain, and the federal government's plans and policies for nuclear waste management more generally.

The next three chapters are organized as follows: Chapter 2 summarizes main themes from the comments that directly relate to the topic of consent-based siting, but that generally transcend the specific design questions posed in the Invitation for Public Comment. Thus, Chapter 2 touches on topics such as the nature and meaning of consent (and non-consent), equity and environmental justice concerns, and challenges related to trust and credibility. Chapter 3 then turns to the specific questions posed in the Invitation for Public Comment and gathers comments and suggestions on topics such as designing a fair process, engaging communities, and providing information and resources to participants in the siting process. Chapter 4 summarizes comments on a range of broader topics that are less directly connected to consent-based siting in and of itself.

Here it is worth reiterating that the purpose of this report is to provide a summary or overview of the input DOE received, focusing on the ideas and concerns that drew the most comment, while also providing some sense of the range and diversity of views held by different stakeholders. To better convey the spirit of the comments, direct quotations from the written correspondence and meeting transcripts are used to illustrate particular points. In general, these quotations are provided without attribution, except in a very few cases

where the organization making the comment is self-identified in the quote itself. For obvious reasons, only a small subset of all comments could be directly quoted in this summary and it was not possible to fully capture all of the opinions, suggestions, and nuances contained in respondents' individual contributions. The full set of meeting transcripts, and the full text of all comments received, are available at energy.gov/consentbasedsiting.

Note: this draft report does not correct any factual inaccuracies expressed in the input and it does not include a DOE response to the input provided or specific proposals to address the concerns DOE heard. Moreover, *the inclusion of any particular view or comment in this summary should not be taken as either an explicit or implied endorsement of that view by the Department, its staff, or the administration*. As is clear throughout the next three chapters, commenters held a wide range of views, some of which are in direct opposition to, and in some cases fundamentally irreconcilable with, other, equally strongly held views. Again, the primary objective in these chapters is to provide a sense of the diversity of perspectives that exists on these topics and to highlight areas of common, or at least frequently expressed, concern.

2. MAJOR THEMES RELATED TO CONSENT-BASED SITING FOR NUCLEAR WASTE FACILITIES

This chapter summarizes input on broad topics that relate directly to consent-based siting for nuclear waste facilities. Responses to the five more specific consent-based process and design questions included in the Invitation for Public Comment are summarized in Chapter 3.

Note: For clarity and to distinguish text that summarizes or paraphrases comments from direct quotations that express the commenter's point in his or her own words, all direct quotations appear in italics. In addition, statements that can be attributed to a specific individual or group because they are taken verbatim from written comments or from transcripts of spoken comments are indicated by quotation marks. Other statements that were transcribed during facilitated small-group discussions at DOE's regional meetings are shown in italics but are not enclosed in quotation marks.

2.1 VIEWS ON CONSENT-BASED SITING, ON EFFORTS TO DEVELOP A CONSENT-BASED APPROACH, AND ON THE NEED FOR ACTION

Overall, commenters expressed a wide range of views about the value of attempting a consent-based approach to siting nuclear waste facilities and about the likelihood that this approach would yield successful siting outcomes. To some extent, different attitudes toward consent-based siting reflected widely divergent views about the underlying feasibility of implementing safe long-term storage and disposal solutions for spent nuclear fuel and high-level radioactive waste.

As a starting point, several respondents acknowledged the nation's several-decades-long history of efforts to develop a disposal repository and the inherent difficulty of siting nuclear waste facilities more generally:

> *"I think we're sitting here today because siting a nuclear waste repository is difficult. And nuclear waste has the capacity to outlast human civilizations and the potential to devastate public health. Because of this we've been unsuccessful in the past."*

Whether future siting efforts—consent-based or otherwise—could be more successful was a subject of considerable debate.

On the skeptical end of the spectrum, numerous commenters—citing the unique characteristics of spent nuclear fuel and high-level radioactive waste, most notably its longevity—expressed doubt that any "fair" process could produce consent for siting a disposal facility:

"[W]e can see no just application of consent, informed or otherwise, to the imposition of a nuclear waste legacy lasting millennia. Further, it is simply beyond the capability of a government agency to ensure safety and security to people or communities for the duration which high-level radioactive waste will remain a hazard to human health."

More immediately, a number of commenters emphasized that neither they personally, nor members of their community, would ever consent to locating a consolidated nuclear waste storage facility or disposal repository in their state or anywhere nearby. One commenter expressed this view bluntly:

"'Consent' to dump nuclear waste in America's back yard is not going to be approved by the American people no matter how your PR strategists massage the lipstick on that pig."

Numerous other commenters, however, took a different view—both of the eventual necessity of developing a disposal repository and of the value in exploring new approaches to siting.

"Previous attempts to site high-level nuclear waste disposal have been top-down in the political process and have failed. Starting over with a bottom-up process is a worthy effort and recognizes what failures have proven: our political, regulatory and judicial process is now set up so that a dedicated (lie down in front of the bus) group can block or stall an issue they oppose, for a long time. Nuclear power is one such issue."

"I think this process is going to work for DOE. It just has to be done carefully and tactfully to be a success. Benefits of accepting a site must be communicated to communities."

For some respondents, it was important to separate the discussion about siting nuclear waste facilities from debates about the role of nuclear energy:

"We're not here to discuss or debate the relevance or the importance or the right or wrongness of nuclear energy and nuclear waste. You all in this room know that it's already here. And I'm not willing, as a citizen with 14 grandchildren, to kick the can down the road, to the next, and the next, and the next generation. I believe it's up to us to resolve this and to do it in a way that's respectful, that's trusting and that's enduring and sustainable. We don't need a short-term political decision that will be reversed or negated with the next election. We've got to have a commonsense, enduring solution - that's built, I believe, on consensus…"

A number of commenters observed that designing and implementing a consent-based siting process would be difficult and would take time. As one commenter noted, consent-based siting "*involves issues of ethics, politics, socioeconomic issues, time, technology, culture, many factors."* Another commenter cited experience with the Waste Isolation Pilot Plant (WIPP) in New Mexico to illustrate these challenges:

> *"[E]ven at WIPP, which was decided by the Blue Ribbon Commission as an example of a consensus-based approach, it took 11 years longer than was projected. Consent-based – I was there. It wasn't always consensus, there was a lot of pulling and tugging, it wasn't like everybody held hands and sang "Kumbaya" around WIPP – it was quite a challenging process."*

Several commenters also cautioned that success was far from guaranteed:

> *"The approach being followed here seems to be headed in the same direction as the German and Japanese examples. The almost universal experience has been local support that fades with distance (distance from the economic benefits) and turns to opposition farther away in areas not needing the economic stimulus of a nuclear project. These are harsh realities that call into question a very broad definition of what is involved in 'consent.'"*

For this commenter, the *"agonizingly slow approach in order to create a 'fair' site-selection process is tantamount to wasting the taxpayers' hard earned dollars at an incredible rate for many years to come."* Other commenters expressed concern that DOE was *"in no hurry to come up with a consent-based siting plan for commercial nuclear waste"* and voiced impatience to begin making progress:

> *"My concern is what I feel is the lack of urgency in dealing with this. Particularly when I hear…it's going to take decades to solve this problem. We've already been dealing with this problem for 70 years. It's time to get the solution done, resolved and unless we can't get it done very quickly, I contend that we need to stop making this stuff."*

> *"I'm tired of hearing DOE talk about being in the early stages of something we've been at for decades now. I've seen people grow old in this business of trying to solve the nuclear waste problem. Words don't engender consent. Actions do. It's time for the DOE to start taking some actions, get out there and start earning consent where it has the opportunity to do so."*

A sense of urgency was especially pronounced among commenters from communities that are already hosting spent nuclear fuel at operating and shutdown reactor sites. As several of these commenters pointed out, consent had neither been sought nor granted in earlier decisions to site nuclear facilities in their communities in the first place. Thus many of them expressed a desire to see spent fuel removed from their communities as soon as possible (as well as a desire to be compensated for their involuntary role as de facto long-term storage sites in the interim – these comments are discussed at greater length in a later section). For some of these commenters and others, the time required to design and implement a consent-based siting process provided all the more reason to move forward without delay:

"Slipping deadlines, inadequate funding, on-site storage and the continued storage rule have all contributed to a lack of urgency in removing spent fuels from sites that were never meant to be long-term storage sites. The communities impacted by on-site long term spent nuclear fuel storage problem have been patient while deadlines for removing the fuel have come and gone, but our patience is wearing thin."

"So the best we can hope for is 15 to 20 years for the removal of the nuclear storage waste out of San Onofre. Obviously, we need to get started today. If not us, who? If not now, when?"

2.2 VIEWS ON THE NATURE OF CONSENT

Commenters offered different definitions of consent, but certain terms or attributes—for example, "informed," "voluntary," "democratic"—were mentioned repeatedly in connection with consent. In terms of what would constitute consent, several commenters spoke of a contract or agreement:

"It's a binding contract between parties but it's more than that. It's a power relationship that takes place and it's an agreement that's made unencumbered by coercion; it's a mutually-arrived-at position."

"Consent must be informed; it must be voluntary; and consent requires control."

"To be fair, consent must be democratic. Consent means the willing approval by governments and a majority of the people…"

Several commenters pointed out that voluntariness necessarily implies the existence of an option to *reject* or withhold consent:

"It is a ruse to discuss terms of consent if there is no choice to refuse consent! This is basic."

"*What I think the most important thing that we can learn from Idaho is the importance of non-consent. If you're asking someone to say 'yes,' and someone says 'no,' you have to hear that; you have to recognize it and you have to respect it. Non-consent is a very important part of a consent process."*

Who gives consent is a key question for designing a consent-based process. Many commenters articulated an expansive view of consent that includes all communities and entities likely to be affected by a proposed facility as well as county, state, tribal, and other authorities.

"Once potential host sites are identified, a consent-based siting process should include all affected entities...agreement by state and county governing bodies as well as tribal

governments in addition to acceptance by the host communities and acceptance by all adjacent communities to that host community. Agreement by all communities that will be impacted by transport routes, including truck, barge and rail to that host community."

A common theme in a number of comments was the idea that priority should be given to the consent of the most "directly affected parties." Though the latter term is subject to interpretation, directly affected parties were generally understood to include, at a minimum, the citizens of communities that are in the geographic vicinity of the proposed facility and of transportation routes to the facility. Thus, a number of commenters expressed the view that the communities closest to a proposed facility should retain ultimate authority to consent (or not).

"We believe that local consent, beyond that of elected officials, is perhaps the most important level of consent, given the allocation of risks in siting a nuclear waste facility."

"DOE must give deference to the community closest to the proposed site, since they bear the greatest risk."

Some commenters noted that the circle of affected parties will, in many cases, transcend political boundaries. A facility located in one county or state may be closer to a community in a neighboring county or state than it is to any community in its home jurisdiction. One commenter pointed out that using city or county lines to define consent could be particularly problematic in very sparsely populated rural areas, where local decision-makers could end up supporting projects that affect individuals who have had little input to the siting process.

In terms of potential environmental impacts, the geographic area affected by a proposed facility could also be quite large. One commenter noted that entire watersheds could be considered affected communities for purposes of siting nuclear waste facilities.

Exactly who is asked to give consent at different points in time and how consent (or non-consent) will be registered are also critical questions:

"What we need to do better it is figure out what a real voice means and how you have access to meetings and how your voice gets heard and how we can ensure that the response is given and we also have to decide when does the community get to say "no" and when does "no" mean "no," right? How many times do folks have to keep getting asked? Those are all important questions that we need to think through."

Some commenters focused on the role of local elected representatives in officially defining consent:

"To the extent possible, DOE should rely on elected representatives of local communities (city council members, mayors, county supervisors, and tribal council leaders) to make official determinations of community consent."

A related concern that emerged in some small-group discussions, however, was that county-level judges and commissioners were elected to decide smaller-scale, local issues and could not represent their constituencies on a decision as controversial and far-reaching as siting a nuclear waste facility. There was also concern that county authorities could prioritize budget considerations over other issues or even that local officials could be bribed or "bought."

Many also stressed the central role of elected officials at the state or tribal level:

"*It is the partnership between federal and state partners that is key to arriving at state consent to host any amount of permanent nuclear waste disposal.*"

"Again, being realistic, a local jurisdiction is the point to begin, but ultimately it will be the governor or state that will make the final decision. The state will be the final arbiter and should not be minimized or forgotten in the process."

"A role must be clearly defined for members of a state or region's Congressional delegation, as all terms agreed to by the parties will require ratification through either or both of the authorization and appropriation process(es). Support from both Senators is particularly important as they are elected in state-wide balloting and therefore able to exercise significant influence in Congress and within their state."

However, there was also support for the view that citizens—at the community or state/tribal level, or both—should have a direct role in giving consent via a vote or referendum:

"*Community consent must be measured by referendum, not merely by agreement of elected officials.*"

"*A simple vote by a County Commission should not constitute 'consent.' A vote should be required in each of the potentially impacted communities."*

"*Local jurisdictions should negotiate terms with DOE but the state should be the legal entity with the final signature authority. To strengthen the likelihood that a State's position would not change with future administrations, DOE should require a binding referendum from the state which locks the state in, assuming that DOE meets its agreed to obligations. In other words, the State (not a governor) has committed to host the facility with the proviso that if DOE fails to meet its obligations, the state can negate the agreement.*"

"The residents of the state should be contacted for a vote on approval or not."

Further, one commenter suggested that the necessary threshold required to establish consent could be different at different levels of government:

> *"You'd need to define then what we mean by 'consent.' So a vote by elected officials in a particular town or county, even if it's unanimous - is not really probably going to cut it - I think you're going to have to go directly to having citizens involved in defining what consent would mean. You'd probably need a referendum…*
>
> *And although as mediators we often define consent as unanimity, when everyone is at least willing to live with the proposal - unanimity is probably too high of a hurdle - but any threshold set, which should part, again, of the terms and conditions, should likely be something that's much closer to 100% than a simple majority of 51%.*
>
> *I think that what we probably learned in the past is that not only the town, but we're going to need to engage the state…and do a similar interactive workshop format with state residents...and if the community is a certain amount of miles away from the border, then you'd need to have a vote in a neighboring state as well. I think for the state referendum - the state vote - I don't think you'd need 100%, I think it could be a different threshold than for the local community; at least a simple majority - maybe two-thirds…"*

Finally, several commenters made the point that consent would mean different things in different contexts and that therefore no "one size fits all" approach would be appropriate in all circumstances. Thus, the mechanisms used to register consent would be likely to vary in different situations and will be difficult to determine in advance:

> *"It is not clear what facilities, transport routes or programs the 'consent' process will enable or facilitate. Greater clarity is essential. Providing input on what 'consent' is may vary depending on the type of facility (long-term or short-term as only one example)."*
>
> *"Two key questions for reaching a siting agreement are who negotiates and who decides? Any agreement must be secured within the framework of our democratic institutions, which by definition means that the public delegates these responsibilities to elected officials or the public exercises its franchise directly through referendum. The political and institutional construct will need to be situation specific based on geography and jurisdictional boundaries. The degree of involvement and level of benefits should be commensurate with the potential risk burden. An additional consideration is the relative ability of a jurisdiction to promote or impede success. A successful consent-based siting process can be expected to be multi-jurisdictional and involve tribal (if tribal nations are potential hosts of a spent nuclear storage or disposal facility), state and local governments in a nested hierarchy of political jurisdictions." Alternatively, new, special purpose, institutional and political constructs*

(e.g., a regional authority) can be created with accountability to a board of directors made up of representatives from impacted jurisdictions."

"While consent must begin with a local community, state agreement and mutual commitments between the parties is key to the long-term durability of the decision to site any facility of this nature. At the same time, we think it would be an error for the federal government, at this point in the conversation, to develop a 'one size fits all' approach to consent based siting of either an interim or permanent disposal facility. Not only are the considerations for the two types of facilities likely to be different, but as we can attest through our geographically diverse locations, communities and states will likely have differing perspectives on the nature of, and the circumstances under which they grant, their consent."

As already noted, several commenters pointed out that the option to withhold consent, or to withdraw or cancel consent, is inseparable from the concept of consent. Thus, some commenters asked DOE to explicitly consider mechanisms that would allow communities to permanently opt out of being considered for a consolidated storage or disposal repository site. A number of commenters also addressed the critical question of when and under what circumstances parties could withdraw or revoke earlier expressions of consent.

"*The contract for hosting a nuclear waste dump needs to be cancelable for cause, including unacceptable engineering changes, violation of safety standards or provisions, or other nonperformance by the Department of Energy or its contractors. Further, it needs to be cancelable if material new information becomes available such that the hosting entity would not have entered into the contract if that information had been known."*

Other commenters pointed out that all parties to a siting decision, including not only host communities and states or Tribes, but also the entity sponsoring the facility would need some clarity and certainty on these questions:

"*What can you do to provide greater certainty and greater control for the entity that is undertaking this process?... How do you get to a point where you can be assured that the decisions you make aren't going to be changed?*"

"We need to set a clear path for what consent means; when host communities can withdraw and when they are bound by their commitments, so everybody knows where they're going moving forward."

Additional discussion of these issues—including questions of local control, consultation, and participation in decision-making—may be found in later sections of this chapter and in Chapter 3 which explore the many specific aspects and demands of conducting a "fair" consent-based siting process.

2.3 THE MEANING OF "INFORMED CONSENT"

Numerous commenters focused on the notion of "informed consent" as basic to the success and validity of a consent-based siting process. As one commenter put it:

> *"In order for communities to be able to consent, they need to fully understand what all this means."*

In a nuclear facility siting context, several commenters emphasized that informed consent needed to start with a basic understanding of the type of facility being proposed, the type and amount of nuclear waste to be stored or disposed of, the timeframe of operations, and other key parameters. Without this basic information, they argued, any discussion of informed consent would be premature:

> *"Any community or private/public partnership considering participation needs to understand the DOE's concept of the facility scope of operations, duration of licensure, and the construct and frequency of shipments to the site."*

> *"In the current process, it is unclear if the federal government will be seeking consent for a pilot facility, a consolidated facility, or a permanent repository. The amount of spent fuel is unspecified, though growing. The length of storage time will always be uncertain. There's no legal framework, no environmental standards. It's not clear how a consent agreement would be enforced. There is no state regulatory authority. In other words, we don't know who is being asked to do what or with what protections. Under these circumstances, informed consent is not possible."*

> *"It is impossible to consent to a project, or not consent to accept a project, for which the basic parameters are not known. All that has been provided to the communities is diagrams of storage containers and systems, and ideas and plans for the tens of thousands of tons of nuclear waste in this country, DOE is not defining exactly what or how much nuclear waste a community would be consenting or not consenting to accept. It is, of course, impossible to consent to a project for which the basic parameters of the project are unknown."*

In addition to understanding a proposed project's parameters and scope, some commenters cited definitions of "informed consent" from the medical and legal fields that specifically emphasize the importance of a full understanding of impacts, risks and trade-offs:

> *"Informed consent is where you discuss fully with somebody the risks and benefits of all the options available to them. And any even unforeseen complications that could occur."*

"'Informed consent' is 'assent to permit occurrence of an event that is based on complete disclosure of the facts needed to make a decision intelligently, such as knowledge of the risks entailed or alternatives.'"

Several commenters pointed out that comprehension has to accompany information. In other words, information has to be presented in a way that the parties being asked to consent can understand. One commenter cited a 1979 report by the U.S. Department of Health, Education and Welfare on the requirement of comprehension:

"*The manner and context in which information is conveyed is as important as the information itself. For example, presenting information in a disorganized and rapid fashion, allowing too little time for consideration or curtailing opportunities for questioning, all may adversely affect a subject's ability to make an informed choice.*"

Several commenters also pointed out that informed consent poses particular challenges in the context of siting nuclear waste facilities. Such facilities involve highly scientific and technical considerations, difficult-to-quantify risks and long timescales, and have the potential to affect large numbers of people over large geographical areas. Commenters pointed out that in this context, it is important to be able to separate misinformation from information and also help people understand what they need to know.

"Some of this information is really, really technically very difficult…and I've worked and talked about this issue for a long period of time - some of these issues get incredibly complicated and so we have to keep that in mind as well."

"I'm addressing my question to the Secretary. You mentioned in your wrap-up to your slides that we have the technology to manage this waste. And I know that's a big subject. It would probably fill reams of paper. But could you give us a little bit of a run-through on what that technology might be? And also where we as concerned citizens might go to look at some of that data? All these terms around radiation and isotopes and running trains through our communities is a bit scary and I think one way to help us would be to give us more information and that addresses the trust issue - the more informed we are, the more likely we would be to give you consent or to give you our very clear message that we don't give you consent to do this. But we want to be informed, either way. We're asking for more information and data, so thank you."

Consistent with this emphasis on the importance—and challenge—of achieving informed consent in the particular context of siting nuclear waste facilities, many commenters stressed the need to provide technical support and resources, including funding, to help communities and the public participate meaningfully in the siting process. This critical topic and other specific ideas for designing a process that would allow for informed consent are discussed in the next chapter (Section 3.4), which discusses responses to Question 4 in the Invitation for Public Comment (i.e., "What information and resources do you think would facilitate your participation?").

Finally, several commenters made the general point that it would be important to break information down in ways that could be understood by people without a scientific or technical background. At the same time, other commenters pointed out that it would also be important not to alienate participants in a consent-based process by assuming that the public is not sophisticated enough to understand the scientific and technical issues. DOE was urged to avoid "talking down to people" and to use terms like "inform" instead of "educate."

2.4 EQUITY, ENVIRONMENTAL JUSTICE, AND THE MEANING OF VOLUNTARY CONSENT

Integral to the concept of consent, according to many commenters, is the attribute of voluntariness. In other words, an agreement that is coerced does not qualify as consent-based. For numerous commenters this aspect of consent is intimately linked to basic questions of equity and concerns about environmental justice.

> *"From past practice we know that only the poorest communities will be asked to participate. This is so not fair."*

> *"Asking communities to go through this process of deciding whether or not they want to store radioactive nuclear waste will most likely -as it has in the past -result in environmental racism. Low-income and communities of color will be unfairly, unjustly targeted by this process."*

Several commenters expressed concern that low-income communities could be exploited, particularly if consent is based on an expectation of incentives or inducements and/or economic benefits such as jobs, infrastructure investments, etc.

> *"There is a fine line between incentives and coerced consent. We need to acknowledge that line, and walk it carefully."*

> *"The element of voluntariness is sharply questionable with regard to the communities which will likely become the subject of this process. Even inducements that would ordinarily be acceptable may become undue and improper if the subject is especially vulnerable, such as an economically depressed or politically powerless community."*

It is worth noting here that several commenters also approached the subject of incentives and inducements from a more positive perspective—as potentially contributing to siting outcomes that have a net positive impact on community wellbeing. These comments, and the important topic of community wellbeing more generally, are discussed in Section 3.5.

Social equity concerns were also raised in a number of comments that specifically addressed the participation of Indian Tribes in a consent-based siting process. Several commenters expressed the view that Indian communities had been targeted in previous nuclear waste facility siting efforts and that they found this very troubling from an

environmental justice perspective. (Additional comments that relate specifically to tribal concerns are discussed in Section 2.9).

For many commenters, the challenge of addressing environmental justice and equity concerns was inherently linked with the challenge of designing a "fair" consent-based siting process (discussed further in Chapter 3 of this report). Fairness, in this context, implies a process that—according to several commenters—is voluntary, inclusive, participatory, competitive, transparent, and guided by "clear" technical standards and criteria. According to one commenter, a fair process, by definition, produces outcomes that are viewed as a "win" by all parties.

To address environmental justice and equity concerns, several commenters emphasized the particular importance of providing information, technical resources, and support for participation to rural, lower-income, and minority communities. (Additional comments on the need for technical and other assistance to support participation more generally are discussed further in Section 3.3.)

> *"Economically disadvantaged communities are especially at risk. Special effort must be made to inform and engage disadvantaged groups that could possibly be affected."*

In addition, commenters urged DOE to consult broader federal guidance on addressing environmental justice concerns including Executive Order 12898 (Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations) and DOE's own Environmental Justice Strategy (PI-00139-5), as well as the National Environmental Justice Advisory Council's Guidelines on Public Participation.

2.5 INTERGENERATIONAL EQUITY AND THE DURABILITY OF CONSENT

Several commenters, noting that equity has temporal as well as social dimensions, raised the subject of intergenerational equity. A frequent point was that the nature and longevity of the risks posed by radioactive waste make it inherently difficult to address equity concerns with respect to future generations:

> "*There is no mechanism for consideration of the rights of future generations that inevitably would be affected."*

> "*We are talking about something that stays toxic and dangerous for generations to come. How can one generation give 'consent' for future generations?*"

> *"We need to expand our timeframe to include future beings, future generations, way down the road, when we're considering nuclear waste."*

Other commenters suggested ways to think about this issue that would allow for action in the present and suggested that constructing a fair process was the best way to address

intergenerational equity concerns. Some commenters also pointed out that continued failure to find disposal solutions for nuclear waste would itself impose burdens on future generations.

> *"My other comment is addressing the issue that was raised during the panel discussion about the question of how do you secure the consent of future generations when they're not here to speak for themselves. And I agree that this is a very tricky issue and here's my proposal for how we deal with this. There is a concept in a variety of social sciences, original economics, called Tiebout competitions, named after the guy who thought of it. A simpler way to talk about it is "voting with your feet." If there's some sort of physical amenity or disamenity in a location, people will choose to move there or move away. And on the timescales we're talking about of 2 million years, people have plenty of time to make an informed decision about, 'Do I want to live near this location as a permanent geologic repository or not?'"*
>
> *"I think we need to do the best job that we can of having the best process, recognizing again that this is going to be there for thousands of years and we can't fairly represent all those generations to come."*
>
> *"Over the past 25 years, our command of science and technology has grown exponentially. Our wrists are now adorned with computers that were once the size of office cubicles. Yet we remain hamstrung by decades-old facility siting strategies that fail to produce positive results. In the nuclear waste arena in particular, our reluctance to adapt and seek new approaches to facility siting has exposed us to increasing costs while we fail in our moral obligation to solve this national problem and not transfer these risks to future generations."*
>
> *"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."*

Though discussions of intergenerational equity tend to focus on very long timescales (multiple generations), commenters also raised questions about the meaning and durability of consent over much nearer-term timescales (within one or two generations). Commenters pointed out that there would inevitably be "*turnover of politicians, generations, citizens, town councils*" over the long time periods covered by agreements to host a nuclear waste facility.

Even if we assume everything is right and local and regional governments agree, how is stability of the process guaranteed over long timeframes?

What is the plan to/strategy to make it stick after next election?

No single answer emerged from comments that addressed this topic, although many commenters pointed to factors that would play a role, among them the perceived fairness and integrity of the siting process itself, the existence of a strong technical basis for consent, and the perceived legitimacy of the mechanisms used to register consent.

A strong technical basis for consent is absolutely critical to ensure the viability of any facility over the intergenerational timeframes involved. A strong technical basis could ensure that the best site possible was selected that would outlive the election cycles of the political process.

Many commenters emphasized that durable consent would require maintaining credibility among the entities involved—to that end, they called for measures such as long-term monitoring of facility performance and robust state and local control. Others noted that it would be important to agree on key questions, such as,

Who will have responsibility for:

- *Honoring commitments?*
- *Accidents?*
- *Issues not part of the original agreement?*
- *Who pays fines, levies fines, who receives fines?*

Another commenter recommended including "*severe penalties for violating the agreement*" as another feature that would make an agreement more durable.

Yet another commenter focused on trust as the ultimate source of durable consent:

"*Collectively, these attributes should engender trust in the siting process and in those responsible for implementing it. Without that trust, in our view, no siting process will lead to durable consent.*"

2.6 STATE, TRIBAL, AND LOCAL CONTROL AS AN ELEMENT OF CONSENT

Several commenters argued that another requirement for consent is "control"—in the form of some degree of regulatory oversight and enforcement authority over the nuclear waste facility being sited. As one commenter put it "*consent requires the ability to ensure that what you consented to is what actually happens.*"

"States have long supported early, meaningful, and substantial state involvement in the development and implementation of environmental statutes and related

processes… DOE should continue to engage states as co-regulators during the development and implementation of a consent-based siting process."

More specifically, several commenters argued that the federal government's current preemption of state authority to regulate radioactive nuclides under the Atomic Energy Act creates a fundamental barrier to consent since it deprives state, tribal, and local authorities of the authority to exercise the control they need to assure that the safety and interests of their constituents are protected.

"The first point that states must have regulatory authority – what I'm really saying is that we have to have an amendment to the Atomic Energy Act. Currently, states are preempted to have authority over health and safety issues, so what that means is that they are powerless. If they perceive, or perceive in the future, that there could be health issues, safety issues, issues that impact property values – they really don't have a say. So this would require Congress to get on the ball, amend the Act; I think the authority probably comes under or could come under the Resource Conservation Recovery Act, the Clean Water Act, the Clean Air Act. This is not a radical suggestion. In fact, the state of New Mexico cut a deal so they would have authority over the WIPP site and so when there was a problem in 2014, they had authority. I think to ask and expect a state to accept either a deep repository or to accept an interim site without giving that type of authority is dreaming."

Another commenter points to a "*deep misunderstanding of federalism and the necessary role of states at the heart of the NWPA*" as "*the root of the problem*" in all efforts to site a geologic repository to date. According to this commenter:

"Our political system has never easily digested or durably solved profound national problems…by either federal fiat or, conversely, by turning matters over to the states entirely…in every instance of national decision making on these and other complex issues, heavily compromised laws or regulations have taken into account the needs and perspectives of states. Bedrock environmental laws reflect this fact. With the notable exceptions of the Atomic Energy Act… there is federalist intention at the heart of environmental statutes and a role expressly reserved for the states. As examples, the Clean Water Act, Clean Air Act, and Resource Conservation & Recovery Act (RCRA) allow states authority to implement those air, water, and waste programs, respectively, in lieu of a federal program. States that obtain "delegated" authority from the federal government must meet minimum federal standards (and the federal government retains independent oversight and enforcement authority). And generally, depending on state law, those delegated states can impose stricter requirements or different regulatory mandates. Nuclear waste should be no different, but under the AEA and the NWPA, it is."

Another commenter, however, expressed concern about the potential for "dual regulation" that could result in "*multiple people telling you what to do, so you can't figure out how to do anything.*" This commenter asked whether proponents of greater state and local regulatory

control had developed specific proposals for changing current law regarding federal preemption.

Some commenters spoke to the need for states and Tribes to be able to monitor facility performance and identify problems as a necessary corollary to exercising independent regulatory authority.

> *"Communities considering becoming consenting communities for DOE nuclear waste storage facilities need to go beyond typical DOE and typical state monitoring programs if they hope to have adequate monitoring of airborne emissions from above ground storage containers, airborne or soil contamination effects of transportation accidents, or buried waste migration in watersheds.*"

Another commenter pointed to the example of the Carlsbad Environmental Monitoring and Research Center (CEMRC), which conducts independent monitoring to detect accidental releases of radiation at the WIPP facility in New Mexico. According to this commenter, CEMRC "*provided reassurance to the local community by providing an independent voice and an independent confirmation of DOE-supplied environmental monitoring results as opposed to only receiving information from the DOE or its operations contractor*." Noting that this reassurance was particularly helpful in the aftermath of the accident that took place at WIPP in February 2014, this commenter concludes "*an independent environmental monitoring program should become part of the requirement for any future consent-based siting decisions*."

Several commenters emphasized that regulatory control and legal enforcement authority were also critically important concerns for Indian Tribes. These issues and the potential for state–tribal tensions in the context of Tribes' sovereign nation status are discussed in Section 2.9.

> "*In reality, siting of spent nuclear fuel and high-level waste is challenging with the expectation that some level of opposition will always exist. With this in mind, the Department must determine how it will balance varying perspectives while accounting for tribal sovereignty and individual state rights. Differing views between Indian country and a state should be given great consideration and, at minimum, the same treatment as state-to-state opposition. Before the Department adopts and implements a consent-based approach, it must appropriately recognize state approval is not necessary for decisions made on tribal land."*

2.7 TRUST AND CREDIBILITY

A major recurring theme across numerous comments is a lack of trust in the federal government and in DOE in particular. Many commenters identified this lack of trust and an associated credibility gap as a major impediment to the success of a consent-based siting

process. For one commenter, lack of trust in DOE and in DOE's intentions cast a shadow over DOE's efforts to gather input on consent-based siting:

> *"This call for comment seems designed to manufacture 'consent' to whatever DOE intends to do."*

Several commenters spoke at some length about the origins and consequences of lack of trust in DOE and in the federal government's waste management program more broadly. An example of this point-of-view follows:

> "*We were put up here, I think, to provide a context for how to move forward and I don't think you can move forward unless you take a look at the past. You know, those who don't understand history are doomed to repeat it. And quite frankly, from our 34-year experience dealing with government agencies like the Nuclear Regulatory Commission, the Department of Energy, and others it's a pretty sorry history that this process is going to have to overcome before you can expect communities to take you seriously. […]*
>
> *[B]ut the bottom line here is that the agencies dealing with nuclear waste in this country have an enormous credibility gap. The public lacks confidence in everything that's gone on before; your history is very clear on how selective you are on what treaties, on what agreements you will keep and which ones you will break with or without consequence. That it's very hard to get a community to trust you and move into an informed consent dialogue under those circumstances*."

Several commenters expressed the view that lack of trust was likely to be one of the biggest challenges DOE would face in designing and implementing a consent-based approach to siting.

> *"So if there is to be any process that is to be successful in achieving consent, it has to be a process that earns consent. It can't be consent on paper, even on brightly covered paper with lots of markers on it. And how do you get to that? Well, it's going to take time, and one might argue with DOE's history that it's going to be hard."*
>
> *"On the subject of trust. If you moved into an apartment house and then found out that the builder had not put toilets in, would you ever trust that builder again? And here we have this nuclear waste that we were assured that it was clean, safe and too cheap to meter, but I don't know if anybody besides me remembers that, but - and nothing was done with the backend of the nuclear cycle and now we are stuck with this and our children, grandchildren and great-grandchildren are stuck with it. And this is the tragedy of it."*

Others saw DOE's consent-based siting effort as potentially offering an opportunity to begin repairing trust:

"*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*."

"The last point I just want to note has to do with the long timelines involved in undertaking these technical assessments of sites and people often talk about the challenges of keeping communities or regions actively interested and involved for many years. It's a really complicated project, and certainly it's important to have a journey that's respectful and well-supported for all those in it. But at the same time, longer timelines actually bring opportunities. Unlike some other projects, there's really a chance here to develop trusting relationships and continue to strengthen those. There's time to co-create what the siting process looks like and start to envision together what a partnership could look like at the hosting stage. There's also time for meaningful discussion in the broader regions involved in the siting area. A really important discussion, and that takes time."

Some commenters thought it important for DOE to acknowledge the troubled history of the waste management program as a first step to regaining credibility.

"The history has to be recognized; it has to be acknowledged, and then you have to try to move forward."

"*We want to trust the agency that goes forward with this process, but we need you to make some overtures that say, 'We can trust you.'*"

For many others, however, keeping commitments was the key to reestablishing trust.

"*The DOE must demonstrate that the federal government can fund, transport, and manage nuclear waste without significant radiation leaks and demonstrate that the federal government can comply with existing nuclear waste laws, contracts and agreements. They have not done this."*

"*We have contracts with the Department of Energy to pick up these materials. Those contracts were supposed to start getting honored in 1998. So certainly we encourage progress in this area.*"

"*There are things that DOE can do to begin to restore trust. It can begin living up to its numerous commitments and following the law (to include all provisions of the NWPA).*"

"The DOE must honor the Nuclear Waste Agreement that was signed by Idaho Governor Batt."

The idea that keeping commitments is central to gaining the trust and credibility needed to sustain consent is behind one commenter's idea of "earned" consent:

"Two words: earned consent. … You have to do it continuously, you have to do it every day - it's hard. You have to live it."

Other commenters likewise echoed the importance of sustaining consent:

"I'd like to comment that consent not only has to be granted, but then it also has to be maintained. You can't just create it - you have to maintain it."

For some commenters, lack of trust in DOE derives at least in part, from the perception that DOE is motivated by an agenda to support nuclear power and the nuclear energy industry. As one commenter put it:

"The Department of Energy is tasked with promoting nuclear energy. So, when we go through this process, we know that the motivation to move the nuclear waste is to promote nuclear energy, to encourage further nuclear energy; to clear the spent fuel pools and remove the liability from the nuclear industry and onto the backs of the citizens."

Several commenters expressed the view that any consent-based process would be unlikely to succeed, and indeed should not succeed, as long as the goal of siting nuclear waste management facilities is to enable more nuclear waste to be generated.

In addition to keeping commitments, several commenters underscored the need for openness and transparency as a way to rebuild trust and credibility.

"*Transparency is essential, and transparency is created when time is invested in education and listening to the public. And transparency also leads to trust.*"

"Transparency, openness between the community and the operator of the site so everybody has a feeling of trust, which is so important and lacking to date."

A number of commenters also noted specific examples where transparency had been lacking in the past and one commenter pointed out that more recent terrorism concerns had complicated the task of providing transparency going forward. Other commenters emphasized additional aspects of trust, such as developing an understanding of communities' needs, values, and concerns and the importance of fostering trust between individuals as a first step toward building trust between institutions:

"*You begin to develop trust by developing trust in individuals. And then you develop the trust in the institutions, which I know is an uphill battle but you have to start somewhere. And there are situations where you can put pressure on individuals to put pressure on their institutions and if they can be seen to be doing that, then that will give you trust in what they are putting forward. But developing a process like this from the bottom up hopefully will engender trust at least in the process and if you then have trust in the individuals involved in a trustworthy process, hopefully the institutions then become more trustworthy.*"

Further specific suggestions for designing a consent-based process that fosters transparency and trust are discussed in Chapter 3.

2.8 VIEWS ON THE NEED FOR A NEW WASTE MANAGEMENT ORGANIZATION

Citing the trust issues discussed in the previous section, a number of commenters voiced support for the idea that a new organization, separate from DOE, should take over the nation's nuclear waste management program.

"*I don't know how any host community could sign on to a binding agreement without having some special purpose independent organization—they're not going to sign on to DOE, we've been burned too many times in host communities.*"

"*I think that trust is a thing. Trust is a very fragile thing. It's easy to break. It's easy to lose. And it's very difficult to get back. The Blue Ribbon Commission, not to mention before, recommended a new agency. One unburdened by over a half a century of failure. We need that new agency. We want to participate. We need a permitted waste facility. But we need an agency that we can trust to begin that process*."

Given that both the Blue Ribbon Commission on America's Nuclear Future and the Department's own, more recent waste management Strategy support the transfer of waste management responsibilities to a new organization, some commenters asked why DOE was moving ahead with a consent-based siting process before a new organization had been established.

"*I am concerned that the DOE is starting this process too soon, before there is clarity on important institutional elements. Although the DOE has embraced the Blue Ribbon Commission's (BRC's) support for consent-based siting, this IPC appears to contradict the BRC's finding that 'A new waste management and disposal organization (MDO) is needed to provide the stability, focus, and credibility to build public trust and confidence'... Until there is clarity regarding the form, funding, constitution, and responsibilities of this 'new organizational entity,' it seems premature for DOE to begin the process, for at least two reasons. First, public trust and confidence in the process depend on who is conducting it, and there is considerable public skepticism directed at the DOE in this regard. Second, what might be learned in a public consultation process*

begun today may not be well-suited to conditions that could prevail if and when a new MDO begins its work."

Not all commenters agreed with the need for a new organization:

"*Creating a new agency does not resolve the issue of trust that plagues the federal government and DOE in particular, when it comes to waste management. Rather DOE should strive to restore trust in the agency and correct the behaviors and culture that has led to this widely acknowledged crisis of confidence*."

"I don't see that we need a new agency, we need to make sure though that the laws are changed to allow interim storage; the laws changed that an administration can't change it the next time that the administration changes, and we should be working hard on all of that…instead of staying in this world of 'don't trust' and 'don't do.' We have got to face that this fuel exists and it must be protected."

As the foregoing comment suggests, there was support for the idea that the waste management program should be more insulated from political influences and considerations regardless of whether a new waste management organization is created. As one commenter put it:

It is important to insulate the process from the normal election cycles and attempt to immunize the process from 'politics' or 'ideology.'

For commenters who supported the formation of a new organization, on the other hand, greater insulation from political influences was one of the chief arguments for transferring the waste management program out of DOE.

2.9 PERSPECTIVES OF TRIBES

Numerous commenters raised concerns and topics specific to Indian Tribes, whose communities have long been affected by nuclear facility siting decisions. A first point of emphasis in many of these comments concerned the sovereign status of Indian Tribes and their unique government-to-government relationship with the federal government:

"*One of the foundational principles of Indian law is the federal government's trust responsibility to Indian tribes. Federal trust responsibility includes legal duties, moral obligations, and the fulfillment of understandings and expectations arising over the entire course of the relationship between the United States and federally recognized tribes. Therefore, it is the right of federally recognized Indian tribes to make development decisions in Indian country, without state objection or oversight*."

Several commenters pointed to a "disconnect" and a "lack of integrity and consistency" in DOE's implementation of policies that impact tribes:

"*As sovereign nations, Tribes are not equivalent to states. Sovereignty and trust responsibility aside, from an ethical standpoint, tribes should be treated at a minimum, in tandem with states. As the current policies and processes exist relating to the siting of nuclear waste, tribes are inappropriately afforded less deference than states. Regardless of where waste is sited, it is incumbent upon DOE to provide American Indians with the legal distinction and respect they deserve*."

An overarching theme of concern for NETWG [Nuclear Energy Tribal Working Group] is the lack of consistency and integrity in DOE's approach to incorporating tribal views and concerns throughout its efforts…Generally, because of the Department's inconsistent consideration to the laws, policies, and inherent sovereign rights of tribal governments, there tends to be disconnect and a lack of trust and confidence in the Department's decisions."

"*There is a level of distrust when it comes to tribes and the federal government. …And that's 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."*

As specific examples of instances when tribes were not accorded the appropriate level of deference, commenters pointed to the experience of the Skull Valley Band of Goshute Indians and a more recent instance involving the Yucca Mountain project. In the first example, a proposal to build a storage facility on tribal land in Utah was stopped despite the Tribe's support for the project. In the second example, from another commenter, a map put out as recently as this year (2016) for a supplemental environmental impact statement on the Yucca Mountain project failed to include tribal lands, even though the Tribe had been granted 'affected status' for the project.

With this history in mind, a number of commenters emphasized the importance of being consulted and treated as equal partners by the federal government in nuclear waste management and siting decisions going forward. Commenters also stressed that Tribes' right of self-determination means that states cannot interfere with a Tribe's decisions for or against the siting of nuclear waste facilities on tribal land:

"Federal government's trust-responsibility should uphold Tribal self-determination, and not cater to the states activities that impede on the Tribes right to self-determination during the consent-based siting process."

"*Consent from all affected government units is ideal, but the right of federally recognized Indian tribes to develop or site a facility on tribal land, without state objection or oversight, is a sovereign right.*"

Further, according to several commenters, DOE's trust responsibility creates an obligation to provide resources and funding to Indian Tribes to allow them to participate as equal partners and manage the impacts of nuclear waste facilities and transportation on their lands. In making this point, one commenter reminded DOE that, "*notification is not communication*."

> *"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."*

> "*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.*"

> **"***The INL transportation corridor transverses the Fort Hall Indian Reservation and increased shipments can and will directly affect SBT, tribal members, natural and cultural resources. SBT has historical experience, knowledge, and measures in place to mitigate potential hazards through the Tribes Department of Public Safety and Emergency Operations Center. DOE has a trust-responsibility to provide resources and funding for affected Federally Recognized Tribes with lack of experience and resources. This will enhance the affected Tribes ability to provide protection and safety in a newly developed and/or increased use of an existing transportation corridor.*"

Commenters also emphasized the unique connection between Tribes and their land:

> "*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?"*

Other commenters noted that their sovereign status gives recognized Tribes the ability to set and enforce their own laws and regulations within tribal lands, including laws and regulations governing land use, hazardous and non-hazardous waste, environmental cleanup, water quality and the protection of other human, environmental, and natural and cultural resources. As one commenter put it: having the "*legal enforcement we need to exercise our sovereignty*" enables tribes to provide "*protection over our ancestral lands and people, as well as our culture… so the key word here is 'protection.'*"

A related point in some of the comments is that sites of cultural and historical importance to Native Americans also exist outside the boundaries of federally recognized tribal lands. Thus, potential impacts—including impacts from transportation—must be considered, not just within reservation boundaries but anywhere there are sacred sites, and cultural and historical lands.

> *"If you come and visit the Nez Perce Tribe we have through our Treaty what we call 'usual and customaries,' so our area of influence in the Northwest is much greater than our land base that we have in Idaho. It extends from the Pacific Ocean and the resources of the Columbia River in salmon and lamprey to the buffalo in the Midwest… So the area of impact for us is much greater and…the Nez Perce Tribe is going to have an issue to say about those areas; those are our sacred areas, those are areas that we've taught as our history and just using our example, the Nez Perce, times that by 500-some nations across this country is going to be a daunting challenge to communicate well with each of these folks.*"

In addition to these broad points, commenters raised a number of additional concerns, including some points of specific interest to a particular Tribe:

- Tribal nations with lands near or adjacent to nuclear reactors share the concern that they have become hosts of facto long-term spent fuel storage sites. (An example is the Prairie Island plant in Minnesota, which is near the Prairie Island Indian Community. The tribe recently bought additional land outside the reservation so that families can choose to re-locate if there are safety concerns associated with these facilities.)

- Some Tribes are still suffering adverse health and environmental quality impacts from retired and still-operating nuclear facilities. The example given involved legacy health effects from uranium mining operations on Navajo lands.

- DOE, EPA, and NRC must assess health risks in a way that includes a culturally appropriate context for tribal populations. Previous modeling to set radiation protection standards for Yucca Mountain, for example, failed to consider lifestyle differences that lead to a disproportionate burden of health risks for Native Americans.

- Some Tribes strongly oppose the "*transportation, storage or production of spent nuclear fuel, high-level nuclear waste, and low-level radioactive was*te" in specific locations, including within the traditional homelands of Turtle Island and at Yucca Mountain. As one group stated in its comments: "*The United States government has a long history of abrogating treaties entered into by the Indigenous tribes of this country and the United States. If Congress approves Yucca Mountain for a nuclear waste dump, it will be another attack on the treaty rights of the Western Shoshone.*"

- In Canada, an effort to engage young people as well as elders has led to the creation of the Elders and Youth Circle to advise the government on "*respectful engagement - respect for treaties, rights - and also how to appropriately embrace indigenous knowledge and interweave it with contemporary science*." This is seen as a way to prepare the decision-makers of tomorrow as well as a way to bring intergenerational perspectives to the table.

2.10 TRANSPORTATION

DOE received many comments on the topic of transportation. As one commenter pointed out, the transportation demands associated with DOE's current integrated waste management strategy could be substantial:

> *"We are now considering the prospect of transport of spent nuclear fuel to one or more consent-based interim storage facilities; the possibility of the subsequent transport of spent nuclear fuel to interim storage, or from interim storage, to a permanent disposal site or sites, and the possible transport of high-level waste to a defense-only geologic repository. That could be an awful lot of transportation. Transport of 70,000 metric tons to Yucca Mountain was estimated to involve 1.3 million shipment miles over 25 years and to directly affect 891 corridor communities: one hundred of those in the Northeast; 289 in the South; 353 in the Midwest and 140 counties in the West. Of the 891 corridor communities, some would be affected by shipments from just one or two origins sites - perhaps over a very brief period of time. Whereas others would be affected by shipments from many origins sites, up to 40 or more, perhaps over decades."*

More generally, several commenters noted that transportation considerations are integral to siting decisions for nuclear waste facilities and that related issues of public acceptance and consent are likely to be significant given the safety concerns that can be expected to arise in connection with nuclear waste shipments.

> *"Just using the word 'siting' without adding the word 'transportation' seems like we're going to pick a place and then worry about it later... it's critical that we think about transportation from the get-go."*

> *"Facility siting identifies destinations for SNF/HLW transport, and largely determines routes, which, in turn, largely determine transportation impacts. So, facility siting should not be addressed in isolation from other program components."*

> *" .... to the extent practicable, accessibility should be a criterion for evaluating the suitability of a potential site. This is one of the useful lessons that came from the licensing of the Private Fuel Storage facility in Utah, which was ultimately blocked due to the inability to construct the necessary transportation infrastructure to move spent fuel to the site."*

Commenters voiced a range of opinions on whether the concept of consent-based siting needed to include a consent-based approach to transportation planning and decision-making or not. Several argued for applying the concept of consent to communities along transportation routes:

> *"The key message here is that as we consider consent-based siting in host states and communities, we should simultaneously consider the acceptance of transportation in corridor states and communities. Assuming that a good transportation outcome will necessarily follow and be compatible with a good interim storage outcome is not a sound approach."*

> *"Shouldn't we be looking at consent for those communities that are on these transportation routes? If they're going to be cast on the sidelines as thousands and thousands of truckloads of some of the most dangerous material in the world goes by their homes and communities, shouldn't they be engaged and give consent for this waste being transported through their communities?"*

> *"No consideration of the rights or consent of those along radioactive waste transport routes is being made or requested, although one of the greatest dangers to the most people, environments and ecosystems is the movement of tens of thousands of tons of nuclear waste on roads, rails and waterways. Even the DOE stated at its Washington D.C. 'kickoff' meeting that there is complete federal preemption over transport of nuclear waste so that would not be part of the process."*

> *"To be fair, the DOE must engage the communities on the proposed transportation routes. The communities on these routes must be part of the consent-based siting process. At this time, it does not appear that the DOE intends to acknowledge the stake that these communities have in this process and include them in any meaningful way. This is a big mistake."*

Other commenters questioned whether it was practical to seek consent from communities along transportation corridors in the same way consent might be sought for a facility:

> "*We do not believe, as others have asserted, that each corridor community must provide its consent for transporting these shipments through their jurisdiction. Section 180 (c) of the NWPA authorizes funding to states and tribes through whose jurisdiction the Secretary of Energy plans to ship spent nuclear fuel and high-level waste. In turn, the states will provide funding and training to its sub-jurisdictions to prepare for shipments."*

> "*We feel it is important for DOE to develop a thoughtful answer to the question of whether consent will be sought for transportation. It is easy to document that the Blue Ribbon Commission on America's Nuclear Future advocated for consent-based siting but not consent-based transportation. We recognize that consent-based*

transportation is neither practicable nor is it enforceable under the Commerce Clause. A more positive answer to the question, however, would be to emphasize that states, Tribes, and local governments are the representatives of the people. As such, they have an obligation to protect the health and safety of the public and the environment. Involving these governments in decision making may not constitute granting consent, but it does help the peoples' representatives ensure that the public is well protected and their concerns are being addressed."

"I would add that the problem with transportation is that it's very distributed. Right? Depending on where these get sited, thousands of communities could be affected in one way or another. I think the issue of consent about the criteria for how things should be moved is a national issue and there ought to be careful consideration of how the transportation system is designed, and the storage while it is in transport, the supports for communities that might be affected as you go along; those things can be dealt with as a national issue, but ultimately if you have every single community having a say about whether something can go through their community or not, ultimately, I can't see how that could possibly work."

Many commenters stated that affected communities must be properly informed and included in transportation planning and that particular attention would have to be paid to equity and environmental justice concerns.

"*None of these communities have a clue what you're talking about doing to them as far as transport.*"

"*The DOE must make transportation maps available as soon as possible when an area is under consideration as a site for either a commercial or federal consolidated interim storage site, permanent INF repository, disposal of HLNW, or related facility. The public must be made aware of transportation routes as soon as possible*."

"I think that communities that are already at a disadvantage economically and culturally will have less resources and less ability to cope with the challenges of this kind of endeavor. And so I'm particularly concerned about those communities like on the Southside (of Chicago) and that's also a community that has a lot of rail, a lot of highways…"

Numerous commenters expressed the view that transporting nuclear waste was inherently risky and dangerous and that it would therefore be difficult to gain public acceptance for nuclear waste shipments.

Some commenters spoke of "mobile Chernobyls" and "floating Fukushimas" in underlining their opposition to nuclear waste transport—whether by barge, rail, or truck. Specific concerns included the potential for accidents and derailments, terrorist attacks, infrastructure failures, incidental exposure to radiation, loss of property values, and liabilities in the case of an accident:

"We do not consent to high-level radioactive waste truck and train shipments through the heart of major population centers; through the agricultural heartland; on, over, or alongside the drinking water supplies of our nation. Whether due to high-speed crashes, heavy crushing loads, high-temperature/long-duration fires, falls from a great height, underwater submersions, collapsing transport infrastructure, or intentional attack with powerful or sophisticated explosives, such as anti-tank missiles or shaped charges, high-level radioactive waste shipments, if breached, could unleash catastrophic amounts of hazardous radioactivity into the environment."
"I am strongly opposed to the shipping of railroad trains to travel around the country with radioactive deliveries. We have seen already repeated disastrous derailments and explosions of trains carrying petroleum. You must be aware that terrorists, as in Belgium, could be tracking a nuclear facility for material for a dirty bomb - centralized locations and railroad trains would be an added attraction."

"What if this stuff is stuck and I'm next to it on the highway, and I'm in a traffic jam or there's an accident? Just being near it is not safe."

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

"Not all communities are equipped with hazmat; according to the American Society of Civil Engineers, our nation's crumbling infrastructure and system of highways, roads and bridges is rated D, making it prone to accidents."

"You're talking about moving more waste than has ever been transported before. So it seems like you're suggesting doing something that we haven't actually done. Things that we have even done before - accidents happen. So what I'm asking is how do you account for human fallibility in the face of such a huge task? And I guess even more so, how can you - I guess who shoulders that risk, really? Where does that responsibility land? Knowing that humans are imperfect?"

Many commenters who expressed concerns about the transport of nuclear waste also voiced objections to implementing consolidated storage. In their view, any added movement of waste would incur additional large and unjustified risks. Views on consolidated storage are discussed at some length in Section 4.2; a few examples are given here:

"*Transporting nuclear waste is an unacceptable risk for temporary storage."*

"*We believe you should only transport the waste once. And that is from where it is to where it's going to end up permanently."*

"*I oppose the consolidation and transportation of waste to new sites unless and until a viable long-term management facility is in operation, per the Nuclear Waste Policy Act.*"

Other commenters saw the scope and nature of the challenges associated with nuclear waste transport as manageable and pointed to the record of radioactive and hazardous materials shipments in the United States as providing a basis for confidence in that assessment:

"Over 50 years of nuclear energy generation, really nearly 60, you arguably could fit all the spent fuel on 100 acres, so this is not a high-volume in terms of the magnitude of the issue. In terms of transportation, it would take about one shipment a week to transport this stuff to a central repository, and so that's out of three million hazardous waste shipments a year.... Already around the world, more fuel has been transported than is currently actually sitting in pools or outside plants in the U.S., so the transportation experience without harm to the public has been carried out safely, so the track record is great there."

"With the WIPP site as an example, we have had shipments, loaded shipments, that would be equivalent to going to the moon and back 26 times. The Defense Department has been shipping Navy fuel for over 30 years without incident. And the WIPP shipment system is the envy of every trucking company probably in the world, but it certainly is in the United States. And it doesn't occur lightly. It occurs because of the integrity that's put into the system. It's the training, it's having people that have never had a moving violation, it's the way the trucks are monitored, it's the only truck going down the highway whose tires are filled to the right level; there are no leaks in the hydraulic hoses and it's the only truck going the speed limit, by the way. So it has some unique characteristics aside from being monitored continuously in its routing."

"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."

Several commenters stressed that it would be important to take a proactive approach to addressing transportation concerns, including working with existing groups that have expertise in this area and implementing additional safety measures for transportation:

"DOE should consider requiring implementation of the transportation safety and security measures recommended by the NAS and the BRC before the commencement of any shipments of spent nuclear fuel or high-level radioactive waste to consolidated interim storage or disposal facilities."

"We cannot emphasize enough that if transportation and emergency response impacts are set aside or deemed to be secondary considerations, it is a mistake."

"Federal agencies should make an effort to review and take advantage of the work and knowledge found in many of the state collaborative efforts such as the Western Governors' Association and Western Interstate Energy Board. It has been estimated that advanced planning time frames on the order of a decade would be required to develop a coordinated transport strategy and the associated logistics and physical infrastructure. Defining priority shipping factors and developing a shipping schedule are likely to become contentious issues. Furthermore, older decommissioning facilities and stranded ISFSIs have less direct management oversight, security, and regulatory monitoring than operating facilities; consequently, they represent a unique risk profile that must be addressed. Identification of shipment priority should begin early in this process. Moreover, early identification provides the essential lead time required to develop the transportation procedures, routes, policies, and supporting state and local infrastructure."

Finally, commenters offered a number of specific ideas for reducing transportation-related risks and addressing attendant public concerns. Suggestions included upgrading rail and other infrastructure, such as roads and bridges; giving communities on-line access to accident records and transportation infrastructure status reports; and developing "*a transportation protocol that would maximize public safety for all citizens who could potentially be affected by any calamity that might befall a shipment of nuclear waste*."

Other commenters raised additional concerns, including the need for more detail on transportation-related costs and technical and safety issues (including details on cooling requirements, canister integrity, and condition of fuel assemblies), the need to standardize transportation canister designs, the lack of working transportation infrastructure at some shutdown reactor sites, and the need to clarify responsibility for liabilities and costs during transport. On this latter point, some commenters offered the view that the utilities alone, or utilities and the federal government, should bear the costs of transporting spent nuclear fuel, not states or Tribes.

3. VIEWS ON DESIGNING A CONSENT-BASED SITING PROCESS

In the Invitation for Public Comment and at public meetings held around the country in 2016, DOE posed five questions aimed at eliciting input on the design of a consent-based process for siting nuclear waste storage and disposal facilities. This section summarizes responses to these questions by commenters. In many cases, the comments DOE received also addressed other topics and/or made larger points that are captured in Chapters 2 and 4 of this report. There is also obvious overlap between many of the general themes discussed in the previous chapter and the specific design questions included in the Invitation for Public Comment. For example, the topic of "informed consent" (discussed in Section 2.3) is closely aligned with the question "What information and resources do you think would facilitate your participation?" (discussed in Section 3.4).

3.1 HOW CAN THE DEPARTMENT ENSURE THE PROCESS FOR SELECTING A SITE IS FAIR?

Responses to this first question about how to ensure a fair process touched on many of the larger themes discussed in the previous chapter (e.g., information, voluntary participation, full disclosure of risks and benefits, trust and transparency, etc.). For many commenters, a fair process would have to accomplish multiple objectives:

> *"Achieving and ensuring "fairness" in the siting of a nuclear waste repository requires a commitment to a transparent process of informed consent. Informed consent is achieved only when the affected entities acquire the requisite depth of knowledge and understanding of the constraints and consequences of the proposed plan and processes. To engage in an equitable and virtuous agreement, the negotiation requires engagement of the right entities while ensuring the appropriate support and education during a transparent process. Before any binding agreement is formed, the affected community must clearly understand the nature and consequences of the generational agreement to which they are committing."*

Another commenter thought it might be more fruitful to focus on establishing performance measures for a fair siting process, rather than attempting to define such a process in advance:

> *"Rather than dictate a specific public engagement process for all potential nuclear waste host communities, the federal government should instead consider defining performance measures that would establish community outreach, inclusion, and transparent decision-making outcomes with an emphasis on the identification of environmental and socioeconomic justice concerns from the outset. That would allow local jurisdictions and states to design their processes around established rules and procedures while also establishing a clear, high bar by which everyone involved understands that consent is to be broad and deep and arrived at through inclusive and transparent community engagement and decision-making."*

In addition to the general points discussed in Chapter 2, commenters offered a number of specific suggestions for ensuring that the siting process is fair. A sampling of these suggestions follows:

- Undertake an "*unprecedented*" effort to engage the public, including giving notice of any meetings and providing a summary of the subject at least a month in advance to major local and social media, government entities, state and local first responders, civil groups, local associations, interested stakeholders, and colleges.
- Ensure that the public knows "*immediately*" when any entity "*volunteers or inquires about volunteering*."
- Ensure that all meetings are public and scheduled at times and places that are conducive to broad community participation. In addition, ensure that all proceedings are recorded and published
- Provide "*high-level summaries and fact sheets to keep participants informed throughout the process*;" "*allow for remote participation as travel to specific events is not always possible*;" and "*provide those who could not attend.. either access to an online video or detailed notes from the event*."
- Consider how the process will address minority opinions.
- "*Retain some flexibility to detail parts of the siting process*" as it goes forward; be willing to "*pause*" to allow for collaboration with the community; and retain the flexibility to "*continually review and update*" funding programs so they can keep pace with communities' needs.
- Ensure that communities understand siting requirements and suitability criteria for different types of facilities.
- Use a mediator who is truly neutral. The person who mediates the agreement [between the host community and the federal government] cannot work for the agency.
- Create a site advisory board for each prospective site that is "*made up of either local elected officials or qualified persons appointed by a vote of local elected officials…. The establishment of a site advisory board should be a negotiated, consensus process among local governments with very minimal facilitation by DOE…*"
- Include *full disclosure of all known capital and long-term costs of the site, including any hidden costs, assurances for permanent financial support, and impact on the local, state, federal, and investor community* [Small Group Discussion in Chicago] as well as full disclosure about who will pay for hidden and unexpected costs.
- "*Provide an emergency response plan that details what will be done if there are problems. Provide details on the oversight, monitoring, and auditing of the site that will be performed and how this information will be made available to the public*."
- Don't assume that "*communities that are already dealing with active nuclear sites or decommissioned sites…would be then more willing to host new sites."*
- Recognize the expertise that exists in areas that have been hosting spent fuel and among the nuclear industry workforce and try to move beyond the polarized debate between anti-nuclear activists and nuclear industry insiders.

- Don't preclude those companies and localities that have already come forward to volunteer to site facilities, whether those proposals involve consolidated storage facilities or repositories or are located in Texas, New Mexico, or Nevada or elsewhere. "*Those kind of efforts should be encouraged.*" At the same time, don't constrain consideration to communities or proposals that have already come forward.

Several commenters emphasized the importance of establishing clear technical and social requirements and siting criteria *before* sites are selected for consideration to assure the transparency and technical integrity of the siting process. Since most commenters who addressed the subject of criteria and standards did so in response to Question 4 (What information would facilitate your participation), this topic is discussed in Section 3.4.

Finally, some commenters offered specific proposals for structuring the siting process. For example, one commenter outlined a generic six-step process for siting a deep geological repository that begins with "*a preliminary list of potential sites that meet scientific criteria for appropriateness*" (step 1) and then proceeds to engaging in discussions with potential volunteer communities near these sites (step 2); full safety characterizations for at least three or more sites with favorable geology and community support (step 3); an administrative safety determination for one or more candidate sites based on the results of the characterization studies (step 4); "*a final, irrevocable decision on community consent*" (step 5); and construction and "*ongoing community oversight*" of the proposed facility (step 6). It is important to stress that the foregoing represents just one suggestion from a single commenter concerning how to approach the siting process; it is included here only as an example of some of the more specific feedback DOE received in response to Question 1 in the Invitation for Public Comment. (At this time, DOE has made no determination as to how it would propose to structure a consent-based siting process.)

Other commenters proposed different models for the siting process or offered detailed suggestions on other aspects of the process. One commenter, for example, offered a detailed list of specific "filters" that could be applied in different phases of the process to screen candidate sites, ranging from technical, geographic, and logistical criteria (e.g. access to utilities and transportation infrastructure) to social and political considerations (e.g. a letter of support from the governor of the host state).

3.2 WHAT MODELS AND EXPERIENCE SHOULD THE DEPARTMENT USE IN DESIGNING THE PROCESS?

A number of commenters urged DOE to look at consent-based siting efforts in other countries, such as Canada, Finland, France, and Sweden.

> "*It certainly must be true that we have something to learn from our citizen-colleagues abroad how they were able to successfully deal with the siting process.*"

Several commenters offered examples of the kinds of lessons that could be learned by looking to other countries' siting experience:

> "*The experience and model of effective site selection is, more often than not, the selection of a site in an area where nuclear facilities already exist, are accepted, and trusted to be safe. This was the case in Sweden and in Finland, and will be the case in Canada. France has a site in a rather poor area looking for an economic boost, but generally the French nuclear industry is seen favorably and trusted, which is not the case for DOE.*"

> "*The role for potential host communities in Canada's process can also help inform DOE's consent-based siting process…the Canadian government has done a good job of outlining the different phases of their program and what each phase will entail. That level of information is very helpful for potential host communities to have at the outset so stakeholders know what to expect and understand that the government has a comprehensive approach over time.*"

Some commenters noted that there are differences between the United States and other countries that could have implications for the design and likely success of consent-based siting processes. Examples include differences in governance structure and differences in the level of public trust in government:

> *"While many would suggest that the Department look to Sweden or other European countries for models of successful siting processes, it is important to note that the legal frameworks regarding federal, state and local governance and related land uses decisions are quite different from those in the United States. In Europe, local communities enjoy significantly greater control over land uses proposed by national governments. The process for siting defined within the Nuclear Waste Policy Act recognized the significant role of the federal and state governments in the United States regarding land use decisions and the role of local governments regarding said decisions."*

> *"We saw …Sweden, Finland and Canada being ahead - those cultures are very different than America in their trust in government and anyone who's paid any attention - trust in government in this country is probably at an all-time low. So how do we get there? I just don't see it happening."*

Other commenters pointed out that experience with consent-based siting in other countries has not all been positive—indeed, some countries' efforts have run into the same tensions between local or state and national interests, among other challenges, that have frustrated past U.S. efforts to site a geological repository:

> "*The Yucca Mountain project, Private Fuel Storage, MRS and other U.S. efforts seemed to have failed because of lack of state support even though local support was significant. Consent processes in England, Japan and Canada seem to have*

significant problems. Sweden and Denmark are moving forward and are now close to the finish line. The political structure of those two countries has made it possible for communities to step up without the interference of states or other political sub-divisions, as exists in the U.S. France is also moving forward, but has an approval process in 100 years that may foil the process."

"*What models do NOT work? The fair and comprehensive national site selection processes widely advertised in Germany (iteration number two) and Japan (also iteration number two) have produced no results. Allowing cantons to reject repository siting studies in Switzerland had to be taken away by the national government to allow progress to be made.*"

Besides looking to international examples, several commenters suggested that DOE should learn from its own experience and from the history of the U.S. waste management program to date, including lessons from Yucca Mountain, from the Waste Isolation Pilot Plant in New Mexico, and from other "*successful and unsuccessful sites that are currently in use or shut down.*"

Commenters also noted two earlier efforts with specific relevance to the siting of nuclear waste facilities—a 1981 task force report on siting and the experience of the Office of the Nuclear Waste Negotiator in the early 1990s:

"*In 1979, President Carter appointed a task force led by Gov. Dick Riley of South Carolina with 17 other members including governors, state legislators, mayors, and four federal officials. Its name was something like the Presidential Planning Council on Radioactive Waste Management. It submitted its report in 1981. A large part of the council's work focused on developing a fair process for siting decisions. The presence of 7 or 8 governors on the council and their regular participation in meetings was significant. If you have not already reviewed the report, it would be worth the effort of taking a look*."

One commenter described lessons learned from the federal government's first effort, through the Office of the Nuclear Waste Negotiator, to recruit volunteer communities to host a monitored retrievable storage facility:

- "*A principal barrier to the siting of these facilities is distrust in centralized governments and government agencies, regrettably including the Department of Energy."*
- *"Political leaders at all levels will be pressured to exercise early preemptive vetoes over the process and must always be given devices to be insulated from the process to avoid that type of pressure."*
- *"National grants or other study monies to let people make their own independent research and evaluation are necessities."*

- *"Site tours of existing facilities are one of the best ways that average citizens as well as political leaders can understand what these facilities are, and how safe they are."*
- *"Special attention and working press protocols must be emphasized from the outset to create media understanding and the accurate delivery of communication.*"

In this commenter's view, "*Whether the political conditions are correct anywhere in the United States for the voluntary siting of nuclear waste facilities remains an open question.*" Further, this commenter cautions that, "*These processes and decisions will take time if we are to reverse 50 years of nuclear fear which grips our citizens – in other words, sometimes we must slow down to speed up on issues relating to nuclear waste.*"

Some commenters also suggested that communities interested in being considered as potential hosts for a facility could learn from the experience of communities that are already hosting storage facilities for nuclear waste at operating and shutdown reactors and at DOE sites. (See also discussion in Section 4.3) Though these facilities were not sited using a consent-based process, current host communities nonetheless have years of experience engaging with DOE and utilities and managing local impacts, including addressing public concerns about safety and risk.

> *"Creating more opportunities for conversation between the unintentional current host communities, and those interested in hosting is an essential part of this process. The waste was created by generating power, by protecting our country, and by medical and other research. Our job today is to take full advantage of the opportunity to be part of moving this process forward."*

Several commenters suggested that useful models and experience could also be found outside the realm of nuclear waste management. Specific suggestions included the work of the Consensus Building Institute; the Facility Siting Credo; EPA's "*collaborative problem-solving model;*" the Department of Defense's Base Realignment and Closure Commission (BRAC), "*which has a history of interagency cooperation relevant to the consent-based process at hand;*" and legislation on facility siting introduced in Illinois (SB 172).

3.3 WHO SHOULD BE INVOLVED IN THE PROCESS FOR SELECTING A SITE, AND WHAT IS THEIR ROLE?

An inclusive, participatory approach was widely viewed as central to the success of a consent-based siting process.

> *"Let's do an inclusive thing - bring everybody to the table. Everyone should know what's going on."*

Responding to the question, "who should be involved and what is their role?" many commenters mentioned citizens, community leaders, local politicians, and state elected officials (see also discussion in Section 2.2):

> *"The ordinary people who will be living near the site should have the defining say as to where a site is or is not located."*
>
> *"Local government is on the front line when it comes to ensuring the health, safety and welfare of persons residing in the United States. Local governments strive to provide for the health, safety and welfare of their residents in part through making informed decisions regarding land uses. Local governments then should be foundational and integral participants in any siting process."*
>
> *"Cities, counties and Native American tribes' governing bodies represent their constituencies, and they should take the lead in identifying a site, developing public support through the multiple avenues of outreach to fulfill Phase 1 criteria. Once public consensus is reached, resolutions of support should then be acted upon by the entities."*
>
> *"Everyone who lives in the state of siting should be allowed to vote on the question of siting within that state. Those who are still in high school, ninth grade or above, should be allowed to vote on the question as well, since they are capable of understanding what they are voting on and since they will be living with the nuclear waste for their entire lives (unless they happen to move away). In addition, in a separate election, everyone who lives in the county of siting should be allowed to vote on the question of siting within that county as well."*
>
> "*a) Local residents and their political representatives must be informed and provided with a veto right.*
> *b) Persons local to the transport route should be apprised of the likely risks associated with accidents and the efforts made to reduce those risks, and also the efforts deliberately not made to reduce those risks.*
> *c) Independent geologists, scientists, and engineers should have full access to the technical data while avoiding compromises to security of the site and transport route."*
>
> *"A successful consent-based siting process can be expected to be multi-jurisdictional and involve tribal (if tribal nations are potential hosts of a spent nuclear storage or disposal facility), state and local governments in a nested hierarchy of political jurisdictions." Alternatively, new, special purpose, institutional and political constructs (e.g., a regional authority) can be created with accountability to a board of directors made up of representatives from impacted jurisdictions."*
>
> "*It is of the utmost importance … that efforts to streamline the consent-based siting process not overlook the important role of state legislators across the country. We feel that DOE can accomplish this consultation by clearly specifying in any rulemaking or*

guidance that the presiding officer of each legislative chamber be included in regards to site selection, study and siting for both the repository and storage facility processes. This language would also allow DOE to remain consistent with the Nuclear Waste Policy Act of 1982, Section 117, which clearly states that, 'the Department shall consult and cooperate with the [G]overnor and legislature of such...State...'"

In addition to citizens, elected officials, and affected members of the public, several commenters pointed to a role for other types of stakeholders in the siting process. Examples included state public utility commissions, independent technical experts, public safety agencies, public health agencies, health professionals and organizations, social justice organizations, environmental justice organizations, and faith organizations.

Another commenter drew a distinction between community-based and stakeholder-based processes, ultimately concluding that aspects of both are probably needed to conduct a consent-based siting process for a nuclear waste facility:

"There are fundamentally two kinds of processes that are consent-based that you can imagine. One of them is stakeholder-based; the idea that in fact what you look for is all of the individuals; the types of individuals who are affected by the disposal issue, and you try in fact to put together a process in which you bring together very good representatives of those perspectives and try to work it out amongst a selected group of people who represent those perspectives.

And the second is to try to do it in a way that is actually quite representative of the communities in which you are engaging. And those representative processes by their very nature require many more people to be involved; many people who have less expertise and less involvement than you would find if in fact you do a stakeholder-based [approach]; and the issue will be how do you balance those? At some level you have to, for an issue like this, you have to have both of those…"

Several commenters expressed concern that ordinary citizens might not be adequately represented in the siting process, and indeed might lack the basic information and resources—such as the notice and means to attend meetings—that would allow them to participate:

"I cannot help but reflect on the demographics of our meeting. And wonder where all the other people are who might represent different demographics? I think that's an important thing for us to notice among ourselves here tonight. Why is it that we came out and others did not? I think a big part of that is that people don't have enough information and the information they do have seems overwhelming and their lives are very busy, they're kind of in survival [mode], perhaps, and so they don't come. Those people cannot possibly give informed consent for what it is you're asking. They cannot. We need to consider that."

"The best thing that we can do going forward is holding more public forums like this and making them more accessible to all citizens, all communities, particularly the younger generation, because my crowd is the one that is going to have to deal with this issue. So, I mean there's a big problem in America today with political advocacy, particularly amongst my generation - I mean I'm a 16-year-old in a room full of older people. [Laughter]. Let's just call it what it is. But yeah, I think just making the information more - I don't want to say user-friendly, but more citizen-friendly - and just making it known that there is an issue and what's going on in our country is definitely the biggest first step that needs to be taken in solving this issue."

Recognizing that "*a public meeting is only successful if it is attended by the public*," several commenters offered specific suggestions for improving public outreach and engagement:

"*DOE should devise a multifaceted outreach strategy" that includes "reaching out to local associations, schools and decision-makers as well as utilizing multiple communication avenues -both on and offline -to advertise the meeting. Advertising must take into consideration literacy and language barriers. Notice -proper and frequent notice of a public meeting should be given to communities and stakeholders. We recommend an initial notice of at least four weeks with subsequent follow-up notices up until and including the morning of the meeting*."

"Your approach needs to be more grassroots. Your marketing needs to communicate at the level of these individuals. Get into the churches, schools, senior centers, grocery stores, etc., where these people congregate and talk. Hit the local breakfast hang-out, the water aerobics class, etc. where the older generations who actually own the land pursue their activities. Your marketing is out of touch with the messaging you're trying to deliver."

Several commenters also suggested that DOE establish a dedicated webpage and make more effective use of social media, while also deploying more traditional modes of outreach (e.g., newspaper and radio, flyers in libraries, etc.) to better engage the public:

"*DOE should create an active presence on social media dedicated to communicating specifically about this issue and process. For example, DOE could create a twitter account with a handle such as @DOESpentFuel that regularly posted information about events, public comment periods, and updates to the DOE website. Tweets are a really easy way for interested parties to quickly share information with their networks through the re-tweet function. Such a twitter account could also publicize hashtags or facilitate public conversation between interested parties.*"

"*You need a website devoted only to the "Consent Based Siting" meetings. Going through the DOE website is too confusing. Do you want to reach the public or not? If yes, do away with the bureaucratic hurdles. Advertise in newspapers. Put flyers in public libraries. DO NOT ASSUME EVERYONE GOES ONLINE. They do not.*"

Commenters also offered several general observations about the importance of a process that allows people to feel that their participation is meaningful, that creates room for respectful and constructive dissent, and that values the contribution of non-technical people even in the context of a very technical decision-making process.

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

> "*But clearly consent-based is not the same thing as consensus. So the point… about the need for dissenting views and talking to people with whom we disagree is crucially important, even if people don't agree with the final decision, we need to have some way to know whether it's a consent-based system and we're really watching."*

> **"***There is a role for non-technical people in technical decision-making, and it should not be underestimated. It's not easy. It's not straight-line decision-making, and requires a significant amount of education, commitment and listening. Not everyone is going to agree on a particular policy, and some will be vociferous in their opposition, but the community and individual input can often lead to epiphany moments that otherwise might never be found. When people know that their voices are heard, even if they disagree with the outcome, conflict is diminished, trust is established and sometimes even consensus can be found.*"

3.4 WHAT INFORMATION AND RESOURCES DO YOU THINK WOULD FACILITATE YOUR PARTICIPATION?

Many commenters emphasized the importance of funding and technical assistance to enable communities to participate fully and make informed decisions in the siting process. Such assistance was widely viewed as essential, both in terms of addressing equity concerns and as a way to provide the basis for informed consent (discussed in Section 2.3). Numerous commenters stressed this link between support for participation and process legitimacy and emphasized that without support many communities would come to the table at a significant disadvantage in terms of resources and expertise:

> *"All of the folks who need to understand the issue come at this with very different resources. They don't all have the resources that the Department of Energy has; they certainly don't have the resources that the utility companies where the waste is stored*

right now; they don't have the resources that those companies have; they don't even have the resources available to them that, say, a commission would have, or that a state agency would have available to them, and so it's really, really important to try to bridge that gap and to try to give the resources to the people who are going to be affected by this."

"To ensure that affected local governments and their communities make informed decisions, they must be educated on all aspects of a potential project. A local government needs to have a full understanding of the benefits and risks …To that end, financial resources must be provided as early as possible to local governments in potential host communities…"

According to a number of commenters, an important function of financial assistance would be to enable local governments to hire and retain their own third-party experts and undertake independent analyses. Many commenters viewed this as crucial for building confidence within communities that they have the full and accurate information needed—in a range of areas—to make decisions in their own best interests. As one commenter noted, communities don't come into the siting process because they've decided to host a facility—rather, "*they're in a learning process*." Therefore it is "*important to equip them to take their own decisions at the end of the day*."

One commenter's experience with the Canadian siting effort prompted the suggestion that support be provided for social as well as technical assessments:

"*One program that has proven to be very important is the funding of strategic planning; envisioning futures, and allowing community members to sit and together really assess whether this kind of project is a good fit for their area. There's a big economic impact of this kind of project, but there are also impacts socially; culturally; spiritually – what does it mean for an area – and it's important to think through with community members what this really means. Our organization can undertake safety work and technical analysis. The communities are the only ones that can assess the social assessment."*

Another commenter points out that funding is needed well beyond the early phases of identifying and characterizing potential volunteer sites:

"As identification and development advance, it is equally important that funds be made available for communities to participate in the process of regulatory documentation, including environmental assessments, intermediate technical progress reports and design documents, environmental impact statements, and license applications."

Yet another commenter notes that the timing and sequencing of funding can create some dilemmas:

> *"The principal resource needed to initiate negotiations for a volunteer site for an interim storage facility or repository is funding to study the site sufficiently to know that it has a chance of performing safely. Herein lies the first dilemma of a consent-based program—without funds, a state or community has little means for performing the scientific investigations needed, and those funds are not likely to materialize unless a site is picked and consent contracts are signed. Alternatively, a number of sites could be selected from a number of volunteer sites, and all could be studied… Assuming regulatory siting guidelines exist and an equitable way can be found to identify one or more sites, then it just comes down to sufficient funding for affected entities to participate meaningfully at each stage of the development process…."*

In terms of financial support for state and community participation, several commenters urged DOE to work with Congress and the administration to secure the necessary resources.

Commenters also noted that financial and technical assistance to communities had been made available in other consent-based siting efforts, including in the effort in Sweden and in the case of the Nuclear Waste Negotiator and the Waste Isolation Pilot Plant in the United States. Another suggestion was that DOE should engage with existing organizations that serve communities and local interests and that have established local, regional, state, and federal partnerships. Examples include the National Association of Development Organizations (NADO), the National Association of Counties (NACo), and the International Economic Development Council (IEDC).

A separate category of responses to the question "what information would facilitate your participation?" focused on the need for non-site-specific regulatory standards and generic siting criteria.

> *"To avoid repeating the failures of past decades and consistent with BRC recommendations, both the standards for site screening and development criteria must be in final form before any sites are considered. Generic radiation and environmental protection standards must also be established prior to consideration of sites."*

Commenters suggested that criteria for initial site selection should be clear, to help ensure that decisions are neither arbitrary nor politically driven, and should include social as well as technical considerations:

> *"Establish site screening criteria, such as hydrology, geology, seismic, population density, transportation access, environmental justice issues…"*

Although a strong technical basis for siting is absolutely critical, criteria relating to social equity and social acceptance must be developed to ensure that benefits and costs are considered, to ensure that the storage/disposal facility is viable over the intergenerational time span. The criteria would also allow a potential host community to evaluate what factors it needs to consider in deciding whether to 'volunteer,' what restrictions they might place on a site, and what oversight role they would want.

While some commenters suggested that consent-based siting should start with expressions of interest, others suggested that screening should be the first step and only communities with suitable geology should be approached.

"*Do you start with finding the best places and then seeing how it goes with the communities, or are we going to look for the communities of interest, and then find the best places in terms of engineering criteria?*"

Site solicitation should be on the front end of the process. Understanding that the ultimate goal of the consent-based siting process is to select sites for the interim storage and the permanent disposal of nuclear waste, the DOE should begin this process by conducting an initial site solicitation request to communities.

- *The DOE should provide a document that outlines the federal requirements for a potential interim storage and permanent disposal site(s) to include, but not limited to, the following items: science criteria (including geological data), peer reviews, expert opinions, irrevocable standards, and international experience.*
- *This could "jump start" the process by focusing consent-based siting efforts on communities that at least meet the 'to be determined' minimum site hosting requirements. Then a more detailed site selection process could take place.*

Finally, several commenters also spoke to the need for generic safety and environmental standards for a geologic repository:

"Both the final report of the Blue Ribbon Commission on America's Nuclear Future (2012) and the Administration's Strategy for Management and Disposal of Used Nuclear Fuel and High-Level Radioactive Waste (2013) state that an important early step in the siting process is establishment of generic repository safety standards. In preparing its report on this IPC, as part of its "implementing a consent-based siting process" DOE should consult formally with the Nuclear Regulatory Commission and Environmental Protection Agency on the urgent need for safety standards and regulations to support a new repository siting process that relies on early public confidence to make informed consent possible from potential host jurisdictions and communities."

"*We need clear and understandable safety and environmental standards. Those are actually well in place for consolidated storage facilities. The NRC regulations are clear*

and they make sense. However, for a generic repository, if the government decides it wants to develop another repository in addition to Yucca Mountain, there are no good usable, understandable generic standards and the government should take the initiative to establish them."

Another commenter urged EPA and NRC to begin working on generic repository standards "*very early in the process because creation of such standards takes many years.*"

3.5 WHAT ELSE SHOULD BE CONSIDERED?

Impacts on a host community are obviously central to any discussion of informed and voluntary consent. Chapter 2 introduces the idea that communities must have a full understanding of the costs, benefits, and risks associated with consenting to host a nuclear waste facility. This section summarizes additional comments that elaborate on the subject of community wellbeing. One commenter, for example, argues for a nuanced view of community interest that focuses on the importance of a positive "value proposition" for the host community:

"There really has to be a strong value proposition for the receiving community. There should be quantifiable benefits, both economic, and otherwise, to the entire community, both now and in the foreseeable future. The benefits must be significant enough where the communities really stand in line and hopefully compete to have this storage site in their particular area. These benefits could include financial payments, local hiring preferences, community infrastructure improvements and so forth. Somehow, the value proposition must stand the test of time and a new political administration can't come in and sweep them away as perhaps they have done in the past. Regretfully, trust is a huge issue because the rules of the game have often been changed in the past."

A related point, voiced by commenters from communities that currently host shutdown reactors, is that communities have to take a long view of the trade-offs involved in hosting a facility, including looking beyond immediate jobs, tax, and infrastructure impacts to consider what happens when a facility closes or no longer supports active operations.

"The closure of a nuclear power plant highlights a poignant gap in these makeshift accommodations [nuclear power plant communities becoming unwitting hosts], one that critically affects host communities' ability to plan and move forward, particularly from an economic standpoint. Attempts to tax the spent fuel and their storage facility, as the means to derive value from an open-ended, non-consensual commitment to host the spent fuel, have generally failed. The outcome is that communities that have lost the economic benefit of an operating nuclear facility - jobs, spending, and tax revenue - are left with a long-term liability but are entirely left of a framework of compensation."

Another commenter suggested that the long-term economic calculus for hosting a nuclear waste facility could shift dramatically if spent nuclear fuel has value in the future because a new generation of reactors can use this material.

One commenter suggested that all residents of a host community who opposed a facility should be offered the option of being re-located, at the federal government's expense, to equivalent housing in any other location of their choosing within the continental United States.

Other specific suggestions for protecting the interests of host communities that are not discussed elsewhere in this report include the following:

- The federal government should be responsible for fully compensating residents and businesses for any damages and costs in the case of accidents or leaks.
- The operations of the proposed facility should be fully explained. "What type of warning systems will be put into place? What type of evacuation processes will be put into place? What types of insurance changes are needed?"
- Elected officials should be required to disclose any financial interest in the outcome of a decision to host a facility.
- National Environmental Protection Act (NEPA) requirements should be applied to a consent-based siting process.

4. OTHER TOPICS

This chapter summarizes comments received on a number of topics related to nuclear energy and nuclear waste management policy more broadly. These topics are distinct from those discussed in Chapters 2 and 3 in that they transcend or are separable from the subject of consent-based siting and the specific questions posed in the Invitation for Public Comment. Nonetheless, a summary of these comments is included here to provide a fuller understanding of the range of views, assumptions, and perspectives that different commenters and stakeholders brought to the consent-based siting discussion.

4.1 VIEWS ON THE ROLE OF NUCLEAR ENERGY

As noted in Chapter 2, a number of commenters offered views on nuclear energy and its role in U.S. energy policy. Among commenters who opposed a continued role for nuclear energy, a common view was that still-operating nuclear power plants should be shut down immediately to avoid adding to the inventory of spent nuclear fuel that already exists. Many of these commenters also expressed support for renewable energy and energy efficiency as preferable non-carbon sources that could substitute for nuclear power:

> *"Since after over 50 years of nuclear fission in the United States there is still no feasible safe storage solution for nuclear waste - the answer must be to stop making the waste. This is not rocket science but simple common sense."*

> *"Nuclear power is too dangerous and expensive. Furthermore, nuclear waste is a long-lasting problem. Concerning nuclear waste—stop making it. The only truly safe, sound, just solution for the radioactive waste problem, is to not make it in the first place. Electricity can be supplied by clean, safe, affordable renewable sources, such as wind and solar, and demand decreased significantly by efficiency, rather than generating radioactive waste via dirty, dangerous, and expensive nuclear power."*

Some commenters saw current efforts to advance management and disposal solutions for nuclear waste as extensions of a nuclear policy that was flawed and misguided from the outset (see also discussion in Section 2.7):

> *"The problem of storing/disposing of nuclear waste should have been considered before the US began to produce nuclear power. Instead, millions of people and all who will follow them carry the dangers indefinitely. As we all know, there is no safe way to store/dispose of nuclear waste. And, as we know, there are alternatives to nuclear power that are less costly and renewable. And yet, the DOE has spent considerable time developing a plan that would be extremely dangerous to implement and extremely unjust to any communities that would consent to it."*

"Until such time as there is a safe way to transport and store nuclear waste and production of nuclear energy is 100% safe, do not ask me where to put the waste. You have no right to even ask this question."

Other commenters expressed the view that nuclear energy had a continued role to play because of climate change concerns and saw the risks and trade-offs associated with nuclear technology, and nuclear waste disposal, in a fundamentally different light:

"Nuclear power is obviously a power source we need to emphasize and expand if we are to curb the menace of global warming. It is important to realize America is the special nation, since the world looks to us for guidance on such global issues as climate change. This makes our choices and speedy movement toward ways of addressing the problem all the more important. Our non-profit, volunteer expert citizen group, I want to emphasize again, is an environmental one. We are not committed to any single power source. We just want a source that is ready and capable of meeting the challenge of powering America without carbon emissions. In terms of scale, we see nuclear as the obvious choice today."

"I keep trying to put everything in context. You know, we're worried about maybe a few people being harmed by radiation or leaking waste that might happen someday, when in fact the waste has not killed anybody; the stored waste at all the sites in 60 years hasn't killed anybody. We've got a monster approaching us from behind. It's called global warming…Yeah, we've got this monster looming over us and here we are worried about maybe someday there'll be this leak and this rule is not exactly right. Let's put all of this in the context of what's coming down on us and our children, and our grandchildren. Please, please think about that. We've got to get this right. We're coming up to the last time when we can make a decision. And after that, our decisions won't matter. So that's my pleading with everybody tonight."

4.2 VIEWS ON CONSOLIDATED INTERIM STORAGE AND CURRENT ON-SITE STORAGE ARRANGEMENTS

Numerous commenters expressed views on the wisdom of moving forward with consolidated interim storage, regardless of the process used to site such a facility.

Among commenters who opposed consolidated storage, many expressed concern about incurring added risks from transportation and handling and about the possibility that a consolidated storage site would become a *de facto* permanent disposal site.

"Nuclear waste should be stored where it is being generated, not handed off to a rural state with little political clout."

"So-called 'temporary storage' means forever."

"Yucca Mountain efforts have failed and no permanent repository is available yet, so why ship this dangerous waste just to store it in a new location?"

"*Why spread more misery and contamination to new locations? All resources should now be dedicated to secure the spent fuel rods in dry casks and enhanced security from terrorism, until a permanent and final solution is actionable.*"

"Depending on how long the waste remains in a proposed interim consolidated storage system, the waste may need to be transported multiple times, as community consent periods expire. The extended periods of storage may require siting of new consolidated storage operations. However, if a site becomes a de facto long-term or even permanent waste site, there would have been no technical qualification or scientific basis for choosing the site. Therefore, the willingness of a community to support the siting of a temporary storage facility would be violated, and the consent-based process would be meaningless, if not fraudulent."

"Why is DOE trying to proceed with consolidated storage, when 30 years of experience with public and private consolidated storage sites show that there is broad, enduring opposition to such facilities? Why not recognize the 'non-consent'?"

Some suggested that if consolidated storage facilities are needed, utilities should provide them:

"The third fact from my view is that federal-government consolidated commercial storage sites are not necessary. The Nuclear Regulatory Commission has said that irradiated fuel can safely stay where it is for decades or longer. If that's not true, can we really trust the Nuclear Regulatory Commission? If it is true, there is no reason to have these kinds of consolidated facilities, and the risks of extra handling, as has just been discussed, the transportation - extra transportation problems - the extra costs of doing those things. The storage of irradiated fuel is the responsibility of the utility companies and if there's a need for consolidated storage, the utility companies can and should create sites to do that."

A number of commenters who were skeptical of the need for federal consolidated storage facilities urged changes in current practices for storing spent fuel at commercial reactor sites. A few commenters also offered detailed technical suggestions concerning safety specifications for dry cask storage.

"Please consider Hardened on Site Storage for Nuclear waste (HOSS). We need to minimize risk. I am a biochemist and medical researcher. I have used radioactive tracers in research. They are very useful. But I also respect the risk of these long-lived radio-isotopes. Please, do not move radioactive materials. Reduce risks by keeping them at current locations."

"*Store irradiated nuclear fuel in HOSS dry casks, as safely and securely as possible, as close to the point of generation as possible, in a monitored, inspectable, retrievable manner*."

DOE also received comments in support of consolidated interim storage:

"Yes, please move as fast as possible to move the nuclear fuel to a temporary storage in a remote place."

"[A] hardened, geologically-stable site for storage of spent fuel is a matter of immediate necessity…"

"NARUC [the National Association of Regulatory Utility Commissioners], by resolution, which is how we set our policies, has suggested that some consolidated interim storage is needed, although the amount, basis of need, and duration should be determined."

"Residents, elected officials and city councils, businesses, and community organizations throughout California are informed and active on the need to safely remove and secure SNF. Over a dozen local Southern Californian cities and government officials have expressed their support of a bill currently before the U.S. House of Representatives: H.R. 3643, the Interim Consolidated Storage Act, which authorizes interim consolidated storage facilities and prioritizes the transfer of nuclear waste from decommissioned sites…Judicious examination of where to construct an interim nuclear waste repository site and of proposals on how to collect, transport, and securely store the radioactive waste is necessary and needed now. The country has been waiting for nearly three decades since Yucca Mountain, Nevada, was designated as the sole location for permanent repository. Removing the waste spread across the country will improve our national security, save Americans billions of dollars, and fulfill the federal government's obligation to safely store nuclear waste."

"We would like to provide a further recommendation to the Department of Energy to establish a National Above-Ground Temporary Storage Facility for America's Spent Nuclear Fuel (SNF). The removal of these materials from some 70 different sites nationwide is long overdue because of the above stated political obstruction. It is only correct in serving the citizens of this country that the DOE would initiate a process to establish a National Above-Ground Temporary Storage Facility. In respect to, either reconsideration of Yucca Mountain and or some other community approved siting, the DOE through congressional approval, should develop a mechanism to relieve the nuclear waste materials from the private nuclear companies, who have been forced to retain them for long after the original contractual basis."

Several commenters questioned DOE's authority to pursue efforts aimed at siting a consolidated interim storage facility citing the linkage that currently exists in the NWPA between consolidated storage and disposal (see also discussion in Section 4.5):

"The DOE must clearly state the federal authority under which the DOE is authorized to pursue a siting process for interim consolidated storage of commercial nuclear waste."

"The Department of Energy has gone rogue in pursuing consent-based siting for consolidated storage first and suggesting that the public's input has any value when the agency has no statutory authority to pursue such a program. Unless and until Yucca Mountain is removed from consideration under the Nuclear Waste Policy Act, there will be no progress on a legal site. The current DOE administration must stop scapegoating the NWPA for prohibiting consolidated storage independent of an operating repository, instead of offering candor in admitting that the Department of Energy failed in its effort to implement NWPA."

4.3 PERSPECTIVES FROM CURRENT HOST COMMUNITIES

Residents and stakeholders from communities in the vicinity of operating and shutdown nuclear power plants voiced several common concerns at the public meetings and in comments submitted to DOE. A first concern was the safety of existing spent fuel storage arrangements at reactor sites. A second common theme was a sense of urgency about removing spent fuel from these sites, particularly in light of the fact that local communities had not been asked, and thus had never consented, to serve as hosts for long-term nuclear waste storage facilities. A third message from these communities was that they should be compensated for storing spent fuel, in recognition of the economic damages and risks they were incurring and to help offset these costs and burdens, including the loss of use of land around the reactor sites.

For example, several commenters spoke of safety concerns and urged that spent fuel be removed from their communities as soon as possible:

"*Forty-three years of nuclear waste is currently being stored at Pilgrim either in an overcrowded wet pool or in storage casks located precariously close to the shoreline (i.e., in reach of rising tides, coastal storms, and saltwater degradation). This default situation risks contamination of the regional environment and is a primary concern."*

"*These sites [in California] – and again there are many of them along our coast… coastal sites are a valuable resource. We've tried to preserve that for a lot of uses, but certainly waste storage is not one the people had in mind. So again, trying to move them off of there is important."*

"*This region of over eight million people (Southern California) is greatly concerned about the future of nuclear waste. Unfortunate incidents, such as in the 2011 Fukushima Daiichi, Japan, when radioactive waste spilled into the Pacific Ocean, serve as reminders of potential destruction if the Department does not act.*"

"*I am writing this letter as a very concerned resident and homeowner in San Clemente. I have public safety concerns over the burial of nuclear waste at San Onofre... We are living under threats of terrorism. Storing nuclear waste near a densely populated area and adjacent to one of our largest U.S. military bases is asking for trouble. On another note, San Onofre and San Clemente are close to earthquake faults that run along the coast and inland. The burial of nuclear waste in any approved canister is unsafe. This nuclear waste needs to be removed, not stored for 25 years. By then, any containers will be hazardous to transport.*"

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

A number of citizens and representatives from current host communities also argued that their communities are incurring direct costs and should be economically compensated as long as they continue to serve as nuclear waste storage sites:

"*Under these circumstances, we see the Town of Plymouth currently serving as a de facto nuclear repository and, with the quickly approaching 2019 end of operations at Pilgrim, are deeply concerned about the remaining spent fuel and its impacts upon the residents, the environment and the public safety of the town. We therefore are seeking appropriate assistance, including financial compensation, from the NRC, our federal government, and the Department of Energy's Nuclear Waste Fund. While we support your efforts to find a consent-based solution to the spent fuel storage problem, the burden of the spent fuel at Pilgrim continues to fall directly and solely on the Town of Plymouth with no mitigating benefits. This spent fuel was never intended to be stored in Plymouth permanently. We ask your support, advice and cooperation in providing adequate compensation to the Town and its residents until a future permanent fuel storage location is established and the spent fuel is removed from Plymouth."*

"*The consent-based conversation is a great opportunity for the DOE to recognize communities with these [already existing] facilities and maybe help broker some agreements about the continuation of spent fuel storage in a manner that conforms more broadly to local and state policy and land-use-rights regulation. Why it matters is that current practices create unnecessary economic hardships for communities. The DOE has a framework in place to compensate licensees and operators for the burden of construction and maintenance of the facilities, but host communities have been left out of that equation. The result is a nonconsensual liability that gets in the way of redevelopment; it removes control and certainty and any attempts that have been*

made to stabilize local revenues by levying tax on the spent fuel have been unpredictable or unsuccessful."

"[Current] Hosting communities should be compensated at a rate equal to the average of the last ten years of on-line power producing operations of both the direct and the indirect revenue streams realized by that community."

"*It bears reminding that there is a cost for inaction, both at the local level and the federal level. We understand that one of the goals in removing the spent fuel is to reduce federal government's liability for partial breach of contract, estimated to be $20 Billion by 2020. This liability is now the responsibility of the US taxpayers, you and me. At the very local level, we have spent millions of dollars participating in licensing dockets, hearings at the federal and state levels, meetings with the NRC and DOE, all in an effort to get the nuclear waste out of our backyard. This is the cost of inaction on our community; these are funds that could have used for other purposes. Because of the federal government's inaction, we have taken the unprecedented and drastic step towards making an emergency evacuation and relocation plan for our community. We have purchased 112 acres east of St. Paul, MN, because of the continued storage of spent nuclear fuel or in the event of accident at the plant. Relocating our community is not something we take lightly, but it is something we must consider for the future of our community."*

In addition to calling for compensation, representatives from current host communities urged DOE to support engagement and information sharing between these communities to more fully inform federal policies:

"Multiple federal agencies would benefit from having an organized group of nuclear host local communities to provide local government stakeholder input on policy matters related to spent nuclear fuel, nuclear waste, and nuclear plant closures and decommissioning. Specific issues include integrated waste management and consent-based siting of spent fuel and high-level radioactive waste, spent fuel transport, and decommissioning rulemaking discussions. Relevant agencies include the Department of Energy, the Environmental Protection Agency, and the Nuclear Regulatory Commission, but also the Economic Development Administration and Department of Agriculture as communities, especially rural communities, plan for socioeconomic impact mitigation in the wake of the closure of a major contributor to employment, household income, and local taxes. This need will become all the more relevant as the current wave of nuclear plant closures continues. Engaging host local governments in the consideration of multiple interrelated nuclear plant closure, decommissioning and waste policy matters would establish a cadre of well-informed local stakeholders who are most directly affected by plant closures to advise multiple federal agencies."

DOE also heard from host communities in states with DOE sites that are currently storing high-level radioactive waste and government-owned spent fuel. For example, a number of

commenters objected to the idea of moving radioactive waste to their state and emphasized the importance of the federal government's living up to existing commitments.

> "*There should be zero tolerance for shipping more commercial radioactive waste to Idaho. We have one of the greatest pure aquifers in the nation and enough toxic radioactive waste at this time*."

> "*Hanford is effectively an interim storage repository. With never a single vote of the local population. Hanford has some of all of it. Like Idaho, we have spent commercial nuclear fuel; we have weapons- complex waste and even Navy submarine and cruiser-ship reactors. And Hanford has the dubious honor of being an interim repository for at least the next 50 years. The waste treatment plant is now scheduled to start in 2034 - 2034 - eighteen years from now. And operate for some 30 years.*"

4.4 VIEWS ON GEOLOGIC DISPOSAL

Some commenters recommended that permanent disposal in deep geologic repository should be the nation's solution for the ultimate disposition of high-level radioactive waste and spent nuclear fuel, and that prompt efforts to develop geologic disposal should be undertaken.

> "*Since the 1980s…we have been in favor of a permanent deep geologic repository as the nation's solution for the high-level radioactive waste spent fuel issue.*"

> "*NRDC concurs with the recognition that our generation has ethical obligation to future generations regarding nuclear waste disposal. Adherence to the principle of deep geologic disposal as the solution to nuclear waste is consistent with more than 60 years of scientific consensus and the views of the BRC*."

Other commenters raised questions about geologic disposal as a solution:

> "*The three large-scale repositories that have operated in the world, Asse and Morseleben in Germany and the Waste Isolation Pilot Plant in New Mexico have all faced challenges during their operating phase, raising questions about the adequacy of technical and safety requirements for geologic repositories.*"

> "*The DOE must consider the possibility that there never will be a deep geologic repository in the United States for Irradiated Nuclear Fuel ((INF) termed Spent Nuclear Fuel (SNF) by the DOE and other entities) that meets all siting, operational, environmental, and safety criteria AND receives the approval of the state and relevant communities and entities (including those on the transportation routes) as a result of any consent-based process. The DOE must consider the possibility of a permanent above ground dry cask storage/disposal site*."

Some commenters raised a separate concern related to geologic disposal—they questioned whether it was fair or sensible from a logistical standpoint to site a repository in the western United States, when most of the spent nuclear fuel inventory is in the East:

> "*92% of the commercial spent fuel we're talking about is east of the 100th meridian. It's in the eastern part of the country. So ask yourself why it makes sense to transport it all to the West.*"

4.5 VIEWS ON THE LINKAGE BETWEEN STORAGE AND DISPOSAL

A number of commenters said that the linkage between interim storage and disposal needs to be considered, and raised a concern that there would be no incentive to pursue disposal if there is no such linkage.

> "*Must SNF be removed from current sites in order to limit breach-of-contract costs? Note that the framers of the NWPA were reluctant to authorize transport to an interim storage site, which it anticipated could become permanent, thereby subverting the overall program objective. It therefore established a close 'linkage' between interim storage and permanent disposal, for two key purposes:*
> - *To prevent an interim storage facility from becoming permanent, and*
> - *To keep the program focus on final disposal.*"

> "*Just to be clear though, right now the policy is for the federal government to take it and dispose of it permanently. And I think that we need to be very careful on severing the storage and disposal process and one thing we should probably take into account is that if all the stuff gets consolidated, and stored and DOE takes care of all of it, where is the incentive to then dispose of it and where are the private companies that sort of generated this waste coming into play? So I think it's an important conversation to have, and a meaningful conversation to have, and I would urge us to have the conversation together with the conversation about a permanent repository*."

> "*The Nuclear Waste Policy Act does not allow Monitored Retrievable Storage sites, now termed Consolidated Interim Storage, until a final repository is operational and we support that linkage as essential to the success of the federal government's nuclear waste management mission*."

4.6 VIEWS ON YUCCA MOUNTAIN

A number of commenters expressed views on siting a geological repository for nuclear waste at Yucca Mountain in Nevada, and on the Obama administration's decision to stop work on that project. Opinions on this subject were starkly divided. Some commenters, pointing to the requirements of the Nuclear Waste Policy Act and to the considerable time and resources that had already been devoted to Yucca Mountain, argued that DOE was

bound by settled law to continue efforts to license a repository at this location. Others voiced equally strong agreement with the Obama administration's assessment that Yucca Mountain is "unworkable"—on multiple grounds. For example, opponents cited continued lack of support at the state level; the non-consent-based nature of the site's selection, by Congress, in 1987; and questions about Yucca Mountain's technical suitability. It is worth noting that a number of the comments DOE received on Yucca Mountain—both in favor and opposed—came from individuals and organizations in Nevada.

Following are examples of comments *in support of* proceeding with efforts to license a repository at Yucca Mountain:

> "*I am a Nevada resident and strongly favor the location of the nuclear waste repository at Yucca Mountain. This plan was approved by our Congress and others long ago. It's time to go forward with it.*"

> "*The 1982 Nuclear Waste Policy Act, NWPA, is still the law. Yucca Mountain remains the only legal, high-level waste site authorized by Congress. NRC completed and released the Yucca Mountain Safety Evaluation Report only after being directed to do so by the U.S. Court of Appeals for the D.C. Circuit. …That NRC report, when finally released, after much delay, clearly confirmed that Yucca Mountain is a safe nuclear repository.*"

> "*Recognize that to start over with a new repository program is not productive since it will take twenty to thirty years for any other site to get where Yucca Mountain is today and could still end up with another state declining to take the wastes. Yucca Mountain is a good site with a balance of favorable geologic and hydrologic attributes. The site is isolated and on land the Federal government already controls.*"

Following are examples of comments *in opposition to* proceeding with efforts to license a repository at Yucca Mountain:

> "*The central problem afflicting nuclear waste policy in the United States is the selection of Yucca Mountain as the sole site to be considered for a nuclear waste repository. Yucca Mountain was chosen by Congress through an unscientific and politicized process of elimination, excluding all other sites before Yucca Mountain was studied to determine whether the site could isolate the radioactivity in this waste. The first step to getting nuclear waste policy on track is to remove Yucca Mountain from the U.S. nuclear waste program.*"

> "*DOE's new interest in consent-based siting does not change Nevada's opposition to Yucca Mountain. Governor Brian Sandoval has clearly stated that Nevada will not consent to storage or disposal of spent nuclear fuel or high-level nuclear waste at Yucca Mountain. This site is unsafe for commercial and defense high-level nuclear wastes, whether combined in one repository, or disposed separately*."

"*Yucca is not scientifically suitable. It is an active earthquake zone, a volcanic zone, and water-saturated underground. If waste is ever buried there, it will leak massively into the environment. And the State of Nevada has never consented to becoming the country's high-level radioactive waste dump.*"

Some commenters, noting that the Nuclear Waste Policy Act links development of consolidated storage to the opening of a disposal repository (see also Section 4.5), argued that DOE should pursue consent-based siting as a *complement* to moving forward with the licensing process for Yucca Mountain, rather than as a substitute or alternative to that process:

"ECA supports moving ahead with the Yucca Mountain licensing review - not only because it is the law - but the site has been analyzed and studied, billions of taxpayer and ratepayer dollars have been spent, and science should be the basis of decision-making. A parallel consent-based siting approach authorized by Congress may help resolve the current political impasse, avoid incurring billions of taxpayer dollars in projected future liabilities, and allow nuclear waste to be moved out of our communities as safely and expeditiously as possible."

"Along with finishing the Yucca Mountain licensing review, Congress needs to pass legislation to modify the Nuclear Waste Policy Act to allow other sites to be considered for interim storage or permanent disposal, but allow Yucca Mountain to be included in those alternatives."

4.7 VIEWS ON THE NEED FOR A SEPARATE REPOSITORY FOR DEFENSE WASTE

A few comments were received on the need for a separate repository for defense waste. These comments expressed widely divergent opinions:

"*A defense-only kind of waste repository is not needed. For more than 30 years, Congresses, administrations, and others have said, defense high-level waste can be disposed of in commercial spent fuel repositories. And there is no technical reason that that can't be done.*"

"Since vitrified high level waste at Savannah River Site is essentially ready for disposal, the glass waste canisters would make an ideal pilot project for permanent disposal at a federal repository. Given that South Carolina has shouldered the burden of this legacy waste and other risks for so long, priority should be given to disposal of the vitrified waste. Lessons learned from early disposal of this small volume (and similar waste forms at other DOE sites) could be applied to larger system solutions across the nation."

Others pointed to the need to honor previous commitments made to remove spent nuclear fuel and other wastes from existing DOE sites:

"*Beyond spent fuel being housed at commercial nuclear utilities, large volumes of both spent nuclear fuel and high-level nuclear wastes are currently stored at DOE facilities across the country, including here in Idaho where they are managed primarily by the Idaho Cleanup Project. These fuels and wastes are subject to a court-enforceable agreement between the Department of Energy and the State of Idaho. It is clear that portions of the agreement will not be met as a result of the failure to construct and operate a repository and that it is in the interests of the State of Idaho, the federal government, and U.S. taxpayers that the federal government move forward with construction of a repository as soon as possible.*"

4.8 VIEWS ON CURRENT PRIVATE EFFORTS TO DEVELOP CONSOLIDATED INTERIM STORAGE FACILITIES

A number of commenters addressed two current efforts by private companies to develop consolidated storage facilities for commercial spent nuclear fuel. Commenters noted that Waste Control Specialists (WCS), LLC has proposed to build a consolidated storage facility for spent nuclear fuel near Andrews, Texas where WCS already has a facility for low-level radioactive waste.[3] Eddy-Lea Energy Alliance (ELEA), LLC is proposing a consolidated storage facility in Lea County, New Mexico (the project also has support in neighboring Eddy County, New Mexico).[4]

Several commenters suggested that the WCS and ELEA efforts should be viewed as successful examples of consent-based siting based on the support that both projects have received from state and local stakeholders. Further, several commenters suggested that DOE could make use of these private facilities and reserve its own consent-based siting effort for identifying a repository site. Some advocates of this approach urged DOE to support the WCS and ELEA efforts, if possible, and, at a minimum, to avoid interfering by "layering on" the federal government's own consent-based process.

[3] WCS has partnered with Areva, Inc and NAC International to jointly support the licensing, design, construction and operation of its proposed facility. More information on this project is available at: http://us.areva.com/EN/home-3328/areva-inc-areva-and-nac-partner-to-support-wcs-used-fuel-consolidated-interim-storage-facility-in-texas.html.

[4] The Eddy Lea Energy Alliance (ELEA), LLC, is owned by Eddy County and Lea County, along with the cities of Carlsbad and Hobbs, New Mexico. In April 2015, ELEA signed an agreement with Holtec International to build a consolidated interim storage facility in southeastern New Mexico, about 12 miles away from the WIPP facility. Under the Agreement, Holtec will design, license, build and operate the storage facility. More information on the ELEA-Holtec proposal is available at http://www.holtecinternational.com/2015/04/holtec-partners-with-elea-llc-in-new-mexico-to-build-consolidated-interim-storage-facility/.

"*We submit that our community of Andrews, Texas could serve as one model of successful consent-based siting. And, we think our experience could be an important contribution to the conversation... We believe it is essential to understand that a supportive host community is entirely possible and already in existence*."

"*Both WCS and Holtec have expended considerable effort to gain the consent of their respective host states and communities. The Department should not interfere with the WCS and Holtec efforts (and perhaps others that may be in the offing in the near term) by imposing on them any consent-based siting process DOE ultimately develops. Nor should DOE require the WCS and Holtec projects to be stayed or delayed while DOE determines whether there are other communities that also might be interested in hosting storage or disposal facilities. Grafting a new siting process onto ongoing projects would be particularly unfair and provide no measureable benefit.*"

Other commenters objected to the view, expressed by some commenters, that the WCS or the ELEA projects had been sited using a consent-based approach and are moving forward with community and state support.

"*Andrews County Commissioners did in fact say that they supported Waste Control Specialists move to bring in high-level radioactive waste, but they are not widely supported in this decision in the community. I have personally gone to Andrews County. I have talked to people. I have worked with local citizens who have talked to people. And nine out of ten people on the street either don't even know what's happening because nobody told them, or they do not want this in their backyard, or both. Now, those County Commissioners are not speaking for the people. These are people who are looking at the dollars that may flow into their county. And that's all they're looking at. They're not looking after the health and safety of their community."*

"A 'No Consent to High-Level Radioactive Waste' resolution became the number one Democratic Party resolution this year, passing in 29 County and District Democratic Conventions. As a result, the 2016 Democratic Party Platform includes the following: "We support… halting the plan to import high-level radioactive waste for consolidated storage in Texas due to risks of water contamination, security concerns and transportation accidents, and we oppose transport of high-level radioactive waste on our highways or railways."

"*It is our view that local communities are only now becoming aware of plans to potentially locate radioactive waste in their state. From communities across Texas, there have been numerous petitions opposing this proposal. These communities deserve to have their voices included in this process — at minimum via a series of local hearings in potential host counties, as well as counties through which nuclear waste may be transported and counties that could be impacted by soil and groundwater contamination. As members of the Texas Legislature, we must make clear that Texas has not consented to accepting radioactive waste for storage, and will not do so until a*

fair, broad-based, and intensive discussion of the risks involved is held in impacted communities, and those communities affirmatively consent to the associated risks."

"*We as residents of New Mexico do not invite DOE to bring waste to New Mexico. We DO NOT CONSENT to the storage of high level nuclear waste in our state now or ever!*"

Some commenters expressed the view that Texas and New Mexico had been "targeted" for nuclear waste facilities and questioned why DOE had not held one of its consent-based siting meetings in that region:

"*The DOE's efforts to minimize opposition, to appear to be understanding and listening, and to use the guise of 'consent' to gather support from other states for shipping off their radioactive waste is deplorable and deceptive. It is a thinly veiled effort to build alignment to dump it on us. Texas and New Mexico are Radioactive Waste Targets.…Transparency has been lacking about this very basic fact. Our region is definitely being targeted and this must be acknowledged by the DOE, minus claims that we want the waste.*"

"*Considering that Waste Control Specialists' application has been filed with the NRC, why were no hearings or public meetings like we're having tonight held in Texas or New Mexico?*"

Independent of views on the WCS and ELEA efforts, some commenters raised more general points concerning the potential role of private facilities and entities:

"*The IPC posed five questions centered on a public approach to site development. That is a very constrained approach to used fuel management, and may not provide the best options for moving forward. The stated goals in DOE' s consent based siting process can also be met through private/public partnerships that are developed outside of DOE's outreach efforts. These private/public partnerships can deliver the same level of the consent of the fully public process, with the added benefit of strong private sector project management for implementation. This combination of private and public interests offers meaningful cost and schedule benefits for the federal government and should not be excluded from the Department's contracting considerations.*"

"*So the normal negotiations on siting are with private entities. It's actually much more rare to negotiate over a government facility. This is an issue of course, because of the length of time in which the nuclear waste remains an issue, the whole question about how private corporations maintain things over time and their durability and what happens if they in fact fail is obviously something that would have to be integrated into that. I would think that the consent processes ought to be fairly parallel - that how one thinks about achieving or siting a facility with government ought to be similar to how one thinks about it in a private setting and the issues will be somewhat different, because on the one hand the government can change its mind and it's hard to bind it; on the other hand, companies don't necessarily have the financial resources to follow*

through on their commitments and so issues about the continuity and other things will become more problematic."

For some commenters, an additional concern about privately owned or operated nuclear waste facilities was the possibility that profit interests and a "*company town*" mentality could compromise the commitment to safety first. There was also a concern that a commercial entity might not always provide accurate or complete information about facility performance.

4.9 VIEWS ON FEDERAL FUNDING FOR NUCLEAR WASTE MANAGEMENT

Several commenters expressed concern about the adequacy of federal funding for nuclear waste management and disposal and about the federal government's rapidly growing exposure to financial liabilities for failing to meet existing waste management commitments on time. Some commenters also raised issues specific to the Nuclear Waste Fund.

"*Time is of the essence. The federal government's financial responsibility for continued storage of UNF (used nuclear fuel) at nuclear power plants is expanding rapidly. That rapid liability expansion is being driven by the unexpected early closure of large numbers of nuclear power plants. This new market trend brings new urgency for addressing the spent nuclear fuel management problem with consolidated storage. In order to benefit from the schedule and cost advantages offered by the industry/community partnerships the DOE must be prepared to advance its contracting schedules to minimize the government's life cycle costs for used fuel management. The monies in the Nuclear Waste Fund come with an obligation to manage them efficiently. Meeting that obligation requires a more aggressive used fuel management contracting approach than DOE has considered previously.*"

"*Some communities have expressed a need for funding from the federal government to educate its citizens and further explore pros and cons to seriously assess interest in hosting a site. The amount necessary for numerous communities to undertake such an effort could be substantial. In addition, potential incentives and economic benefits for communities and states that host consolidated interim storage or permanent disposal sites have been proposed. Again, this could be substantial. While not opposing funding for such purposes from other sources, our members have considerable concern regarding any potential expanded uses of the NWF beyond those outlined in the NWPA.*"

"*We are very concerned about stewardship of the nuclear waste fund. […]. There have been lawsuits against the Department; and there will be more - the Department currently estimates its liability for not performing on its Contract to be $29 billion. […] [T]he taxpayers are on the hook for the lawsuits and the ratepayers paid for the repository that didn't get built. So if you've paid your electric bill, and you're paying*

your taxes, you're suing yourself. And that's a sad state of affairs. That is not conducive to earning the consent of the American people."

4.10 ADDITIONAL TOPICS

Commenters also offered views on a wide range of additional topics. These comments include, but are not limited to: promoting deep-sea disposal for nuclear waste; recommending a ban on the importation of nuclear waste from other countries; considering alternative technologies and/or diverting resources to advance progress on new alternatives for storage and disposal such as reprocessing, fusion, advanced reactor technologies; and recent problems with DOE's effort to site a Deep Borehole Test Facility.

Excerpts of comments on these topics follow:

"*Sub-seabed disposal of the SNF at the HBPP [Humboldt Bay Power Plant] ISFSI is a potential alternative to the current plan that could be implemented more quickly than the schedule noted above. This would be the last major activity needed to complete the decommissioning of HBPP and allow the site to be restored. This would be consistent with the Blue Ribbon Commission recommendation that spent fuel currently being stored at shutdown reactor sites be "first in line" for transfer to a consolidated storage facility (Blue Ribbon Commission 2012)*."

"*The biggest point is that waste is not a problem. It can be burned up in advanced reactors. We need to develop them and move in that direction.*"

"*Substantial time, money, and intellectual resources should be focused on developing and bolstering nuclear waste transmutation and other innovative technologies that seek to recycle and reuse waste, reduce radioactivity, and minimize waste volume. Only when solutions arise for dealing with the existence of nuclear waste should investment in continuing nuclear power production resume with any justification*."

"*Objections have also been heard in both of the Dakotas regarding DOE's recent efforts to develop the science on a borehole disposal approach to some forms of nuclear waste.*"

5. LOOK AHEAD

As DOE takes next steps toward designing a consent-based siting process, careful consideration will be given to the input summarized in the foregoing chapters. Engaging and developing relationships with, collecting feedback from, and responding to the concerns of the general public, partners, and stakeholders will allow DOE to design and implement a stronger and more robust waste management program than would otherwise be possible. In essence, stakeholder engagement leads to better outcomes.

5.1 INITIAL DRAFT OF A CONSENT-BASED SITING PROCESS

DOE is committed to using a collaborative approach, drawing on input received as well as information from other sources and ongoing engagement with stakeholders and communities as it develops an initial draft of a consent-based siting process. DOE plans to release an initial draft of a consent-based siting process by the end of December 2016. That draft should be viewed as a starting point that will benefit from constructive dialogue with interested parties as the Department works to refine the consent-based siting process.

5.2 DEVELOPMENT OF FACILITY SITING CONSIDERATIONS

The Department has heard clearly from stakeholders that they wish to learn more about the various criteria that will apply to facility siting. As part of its commitment to transparency, the Department plans to develop siting criteria collaboratively with interested parties. Recognizing that the development of siting criteria needs to be addressed as part of the design of the consent-based siting process, the Department plans to issue a draft report on siting considerations for interim storage and geologic disposal facilities for public comment in December 2016.

In that report, DOE will define preliminary siting considerations for various nuclear waste management facilities that take into account the different function(s) that each type of facility will need to perform. These preliminary siting considerations could cover a range of concerns, including site spatial requirements, geologic and other hazard identification, environmental factors and considerations, socioeconomic factors, and transportation requirements.

5.3 SUPPORTING ENGAGEMENT THROUGH OUTREACH, INFORMATION, AND FUNDING

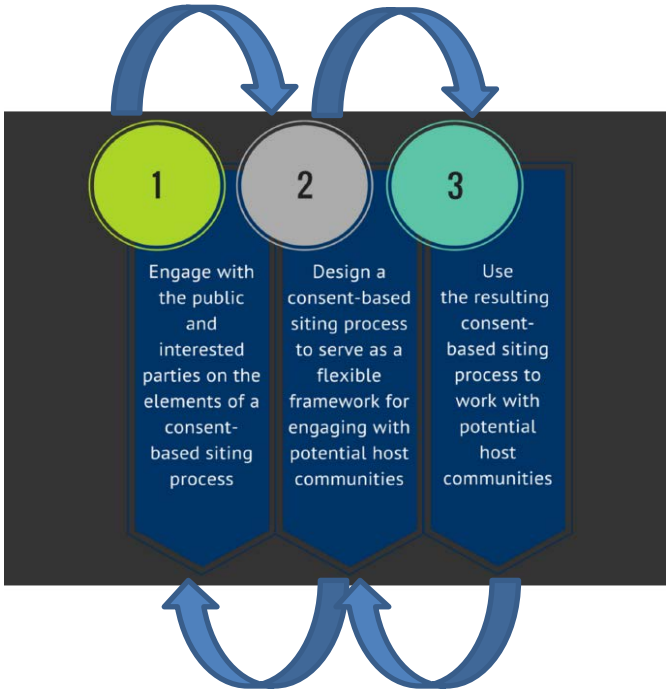
Through this initial period of public engagement on the subject of consent-based siting, the Department consistently heard that communities and stakeholders need support—in the form of outreach, information, and funding—to sustain their meaningful engagement in a consent-based siting process and to build a durable foundation for informed consent.

At the outset, potentially interested parties are likely to have varying levels of understanding as to the siting process itself, the technical and operational requirements for a facility, and the desired characteristics of a host site. DOE plans to continue outreach efforts and efforts to provide information to communities interested in learning more.

The Department's FY 2017 Budget Request, pending congressional approval, includes funding to help transition mutual learning and engagement activities for consent-based siting to the community level through a Funding Opportunity Announcement. Funds will enable communities to learn more about nuclear waste management and explore their potential roles in consent-based siting and other waste management efforts. Pending congressional approval, DOE plans to convene focused meetings with interested parties and conduct public outreach on a range of topics such as:

- Consolidated interim storage
- Disposal of defense HLW
- Transportation of commercial SNF and DOE wastes from current storage locations
- Results from focus groups, general education articles and public surveys
- Analysis of public preferences related to siting, characterization, and operation of facilities for the storage and disposal of radioactive waste.

Figure 5.1 Phases of a Consent-Based Siting Process



6. APPENDICES

APPENDIX A – COPY OF INVITATION FOR PUBLIC COMMENT AND EXTENSION

SEAs, with instructions, and will request that SEAs commence submitting FY 2015 data to the Census Bureau on Tuesday, February 2, 2016. SEAs are urged to submit accurate and complete data by Friday, March 18, 2016, to facilitate timely processing.

Submissions by SEAs to the Census Bureau will be analyzed for accuracy and returned to each SEA for verification. SEAs must submit all data, including any revisions to FY 2014 and FY 2015 data, to the Census Bureau no later than Monday, August 15, 2016. Any resubmissions of FY 2014 or FY 2015 data by SEAs in response to requests for clarification or reconciliation or other inquiries by NCES or the Census Bureau must be completed by Tuesday, September 6, 2016. Between August 15, 2016, and September 6, 2016, SEAs may also, on their own initiative, resubmit data to resolve issues not addressed in their final submission of NPEFS data by August 15, 2016. All outstanding data issues must be reconciled or resolved by the SEAs, NCES, and the Census Bureau as soon as possible, but no later than September 6, 2016.

In order to facilitate timely submission of data, the Census Bureau will send reminder notices to SEAs in May, June, and July of 2016.

Having accurate, consistent, and timely information is critical to an efficient and fair Department of Education (Department) allocation process and to the NCES statistical process. To ensure timely distribution of Federal education funds based on the best, most accurate data available, the Department establishes, for program funding allocation purposes, Monday, August 15, 2016, as the final date by which the SEAs must submit data using either the interactive survey form on the NPEFS data collection Web site at: *http://surveys.nces.ed.gov/ccdnpefs* or ED Form 2447.

Any resubmissions of FY 2014 or FY 2015 data by SEAs in response to requests for clarification or reconciliation or other inquiries by NCES or the Census Bureau must be completed through the interactive survey form on the NPEFS data collection Web site or ED Form 2447 by Tuesday, September 6, 2016. If an SEA submits revised data after the final deadline that result in a lower SPPE figure, the SEA's allocations may be adjusted downward, or the Department may direct the SEA to return funds. SEAs should be aware that all of these data are subject to audit and that, if any inaccuracies are discovered in the audit process, the Department may seek recovery of overpayments for the applicable programs.

Note: The following are important dates in the data collection process for FY 2015:

February 2, 2016—SEAs can begin to submit accurate and complete data for FY 2015 and revisions to previously submitted data for FY 2014.

March 18, 2016—Date by which SEAs are urged to submit accurate and complete data for FY 2014 and FY 2015.

August 15, 2016—Mandatory final submission date for FY 2014 and FY 2015 data to be used for program funding allocation purposes.

September 6, 2016—Mandatory final deadline for responses by SEAs to requests for clarification or reconciliation or other inquiries by NCES or the Census Bureau. All data issues must be resolved.

If an SEA's submission is received by the Census Bureau after August 15, 2016, the SEA must show one of the following as proof that the submission was mailed on or before that date:

1. A legibly dated U.S. Postal Service postmark.
2. A legible mail receipt with the date of mailing stamped by the U.S. Postal Service.
3. A dated shipping label, invoice, or receipt from a commercial carrier.
4. Any other proof of mailing acceptable to the Secretary.

If the SEA mails ED Form 2447 through the U.S. Postal Service, the Secretary does not accept either of the following as proof of mailing:

1. A private metered postmark.
2. A mail receipt that is not dated by the U.S. Postal Service.

Note: The U.S. Postal Service does not uniformly provide a dated postmark. Before relying on this method, an SEA should check with its local post office.

Accessible Format: Individuals with disabilities may obtain this document in an accessible format (*e.g.*, braille, large print, audiotape, or compact disc) on request to: Mr. Stephen Q. Cornman, NPEFS Project Director, National Center for Education Statistics, Institute of Education Sciences, U.S. Department of Education. Telephone: (202) 245–7753 or by email: *stephen.cornman@ed.gov.*

Electronic Access to This Document: The official version of this document is the document published in the **Federal Register**. Free Internet access to the official edition of the **Federal Register** and the Code of Federal Regulations is available via the Federal Digital System at: *www.gpo.gov/fdsys.* At this site you can view this document, as well as all other documents of this Department published in the **Federal Register**, in text or Adobe Portable Document Format (PDF). To use PDF you must have Adobe Acrobat Reader, which is available free at this site.

You may also access documents of the Department published in the **Federal Register** by using the article search feature at: *www.federalregister.gov.* Specifically, through the advanced search feature at this site, you can limit your search to documents published by the Department.

Authority: 20 U.S.C. 9543.

Dated: December 18, 2015.

Ruth Neild,

Deputy Director for Policy and Research Delegated the Duties of the Director for the Institute of Education Sciences.

[FR Doc. 2015–32266 Filed 12–22–15; 8:45 am]

BILLING CODE 4000–01–P

DEPARTMENT OF ENERGY

Invitation for Public Comment To Inform the Design of a Consent-Based Siting Process for Nuclear Waste Storage and Disposal Facilities

AGENCY: Fuel Cycle Technologies, Office of Nuclear Energy, Department of Energy.

ACTION: Notice of Invitation for Public Comment (IPC).

SUMMARY: The U.S Department of Energy (DOE) is implementing a consent-based siting process to establish an integrated waste management system to transport, store, and dispose of commercial spent nuclear fuel and high level defense radioactive waste. In a consent-based siting approach, DOE will work with communities, tribal governments and states across the country that express interest in hosting any of the facilities identified as part of an integrated waste management system. As part of this process, the Department wants public input on implementing this system. In order to solicit public feedback, DOE is submitting this Invitation for Public Comment (IPC). Through this IPC, we are requesting feedback from communities, states, Tribes, and other interested stakeholders on how to design a consent-based siting process. In addition, the Department intends to host a series of public meetings to engage communities and discuss the development of a consent-based approach to managing our nation's nuclear waste.

DATES: Written comments will be accepted beginning December 23, 2015 through June 15, 2016. Separate announcements will be made for each public meeting.

ADDRESSES: You may submit questions or comments by any of the following methods:

Email: Responses may be provided by email to *consentbasedsiting@hq.doe.gov.* Please include ''Response to IPC'' in the subject line.

Mail: Responses may be provided by mail to the following address: U.S. Department of Energy, Office of Nuclear Energy, Response to IPC, 1000 Independence Ave SW., Washington, DC 20585.

Fax: Responses may be faxed to 202–586–0544. Please include ''Response to IPC'' on the fax cover page.

Online: Responses will be accepted online at *www.regulations.gov.*

FOR FURTHER INFORMATION CONTACT: Requests for further information should be sent to *consentbasedsiting@hq.doe.gov.* Please include ''Question on IPC'' in the subject line.

SUPPLEMENTARY INFORMATION:

Background

Electricity generated by nuclear energy has powered homes, schools, and industry in the United States since the 1950s. Nuclear material is used to power naval vessels and was used to build the U.S. nuclear weapon stockpile during the Cold War. These activities have generated spent nuclear fuel (SNF) and high-level radioactive waste (HLW).

Isolating and containing this radioactive waste is necessary to ensure the long-term safety and security of the public and environment. Though the Cold War ended a quarter century ago and commercial nuclear power has been generated for over half a century, the country still lacks a permanent disposal solution for SNF and HLW. Instead, commercial SNF is stored at operating and shutdown reactor sites around the country while HLW from defense activities resides at Department of Energy sites. Previous attempts to develop long-term solutions for storage and disposal of this waste have resulted in controversy, litigation, protracted delays, and ultimately a failure to address the problem.[1]

Failure to dispose of nuclear waste has proven costly for energy ratepayers and taxpayers who are paying for the inability of the government to meet federal waste management commitments. States, Tribes, and others in the public carry the undue burden of hosting radioactive waste they were promised was only temporary.[2] Collectively, we have the responsibility to dispose of waste using a process that is fair to present and future generations. We must live up to our obligations and develop a lasting solution.

Purpose

The purpose of this IPC is to seek input on the elements that the Department of Energy should consider in the development of a consent-based siting process. As reflected in the Administration's *Strategy for the Management and Disposal of Used Nuclear Fuel and High-Level Waste* (Strategy),[3] the Department concurs with the recommendation from the Blue Ribbon Commission on America's Nuclear Future that a phased, adaptive, consent-based siting process is the best approach to gain the public trust and confidence needed to site nuclear waste facilities. As the Department begins to consider a process for consent-based siting, we want to hear from all interested parties.

The Administration's Strategy envisioned the implementation of an integrated waste management system consisting of a range of nuclear waste facilities, each serving a specific role, to address the challenges facing the U.S. These nuclear waste facilities could include:

- A pilot interim storage facility with limited capacity capable of accepting used nuclear fuel and high-level radioactive waste and initially focused on serving shut-down reactor sites;
- A larger, consolidated interim storage facility, potentially co-located with the pilot facility and/or with a geologic repository, that provides the needed flexibility in the waste management system and allows for important near-term progress in implementing the federal commitment;
- Deep borehole disposal, which could be an option for disposal of smaller and more compact waste forms currently stored at Department of Energy sites;
- A permanent geologic repository for the disposal of defense high-level waste and, potentially, some DOE-managed spent nuclear fuel, which would be generally less radioactive, cooler, and easier to handle, enabling a simpler design and earlier availability; and
- A permanent geologic repository for the disposal of commercial spent nuclear fuel.

In early to mid-2016, the Department of Energy will host a series of public meetings to receive input for the design of a consent-based siting process. This IPC announces the Department's intention to hold meetings and to request input about what considerations are important when designing a fair and effective process for consent-based siting. Written input as well as feedback from public meetings will enable the Department to draft the initial steps on a proposal for a phased, adaptive, consent-based process for selecting sites.

Moving forward, the Department of Energy will draw upon extensive experience in storage, transportation, siting, policy, legislative, and regulatory issues both in the U.S. and elsewhere. A top priority is to build upon and improve existing relationships with states, Tribes, communities, and stakeholders to help identify important considerations, challenges, and opportunities for discussion.

Questions for Input

(1) How can the Department of Energy ensure that the process for selecting a site is fair?

Consent based siting seeks to ensure fairness in the distribution of costs, benefits, risks and responsibilities now and in future generations. How, in your view, can fairness be best assured by the process for selecting a site?

(2) What models and experience should the Department of Energy use in designing the process?

The challenges and opportunities of site selection drive us to continue to learn from previous or ongoing examples. From your perspective, what experience and models do you think are the most relevant to consider and draw from in designing the process for selecting a site?

(3) Who should be involved in the process for selecting a site, and what is their role?

The Department believes that there may be a wide range of communities who will want to learn more and be involved in selecting a site. Participation in the process for selecting a site carries important responsibilities. What are your views on who should be involved and the roles participants should have?

(4) What information and resources do you think would facilitate your participation?

The Department of Energy is committed to ensuring that people and communities have sufficient information and access to resources for engaging fully and effectively in siting. What information and resources would be essential to enable you to learn the most about and participate in the siting process?

(5) What else should be considered?

[1] Blue Ribbon Commission on America's Nuclear Future, Report to the Secretary of Energy, January 2012. *http://energy.gov/ne/downloads/blue-ribbon-commission-americas-nuclear-future-report-secretary-energy.*

[2] Ibid.

[3] Strategy for the Management and Disposal of Used Nuclear Fuel and High-Level Radioactive Waste, January 2013. *http://www.energy.gov/downloads/strategy-management-and-disposal-used-nuclear-fuel-and-high-level-radioactive-waste.*

The questions posed in this document are a starting point for discussion on the design of the process for consent-based siting of nuclear waste facilities, the Department of Energy would like to hear about and discuss any related questions, issues, and ideas that you think are important.

Next Steps

Written comments from this IPC, along with input from public meetings, will be documented in a draft report scheduled to be released in summer 2016. The Department is planning to solicit comments on the draft report in order to ensure the content accurately reflects input received.

If you are unable to attend a public meeting or would like to further discuss ideas for consent-based siting, please propose an opportunity for us to speak with you. The Department will do its best to accommodate requests and help arrange additional opportunities to engage. To learn more about nuclear energy, nuclear waste, and ongoing technical work please see *energy.gov/consentbasedsiting.*

Submitting Comments

Instructions: Submit comments via any of the mechanisms set forth in the **ADDRESSES** section above. Respondents are requested to provide the following information at the beginning of their response to this IPC:

State, tribal, community, organization, public or individual name;

State, tribal, community, organization, public or individual point of contact; and

Point of contact's address, phone number, and email address.

If an email or phone number is included, it will allow the DOE to contact the commenter if questions or clarifications arise. No responses will be provided to commenters in regards to the disposition of their comments. All comments will be officially recorded without change or edit, including any personal information provided. Personal information (other than name) will be protected from public disclosure upon request.

Please identify your answers by responding to a specific question or topic, if possible. Respondents may answer as many or as few questions as they wish. Any additional comments that do not address a particular question should be included at the end of your response to this IPC as ''Additional Comments.''

DOE would appreciate early input in order to identify initial interest and concerns, as well as any early opportunities. Amended or revised inputs from commenters are also welcome throughout the comment period to help DOE develop this process. Comments received after the closing date will be considered as the planning process progresses; however, the DOE is only able to ensure consideration of comments received on or before the closing date as the initial phase of the consent based siting process is developed. Subsequent comments and input will also be welcome as DOE views this as a core component of a phased and adaptive consent-based siting process.

Privacy Act: Data collected via the mechanisms listed above will not be protected from the public view in any way.

Issued in Washington, DC, on December 15, 2015.

Andrew Griffith,

Associate Deputy Assistant Secretary for Fuel Cycle Technologies, Office of Nuclear Energy, Department of Energy.

[FR Doc. 2015–32346 Filed 12–22–15; 8:45 am]

BILLING CODE 6450–01–P

DEPARTMENT OF ENERGY

Federal Energy Regulatory Commission

[Docket No. NJ16–4–000]

City of Banning, California; Notice of Filing

Take notice that on December 15, 2015, City of Banning, California submitted its tariff filing: Filing 2016 Transmission Revenue Balancing Account Adjustment and Existing Transmission Contracts update, to be effective 1/1/2016.

Any person desiring to intervene or to protest this filing must file in accordance with Rules 211 and 214 of the Commission's Rules of Practice and Procedure (18 CFR 385.211, 385.214). Protests will be considered by the Commission in determining the appropriate action to be taken, but will not serve to make protestants parties to the proceeding. Any person wishing to become a party must file a notice of intervention or motion to intervene, as appropriate. Such notices, motions, or protests must be filed on or before the comment date. On or before the comment date, it is not necessary to serve motions to intervene or protests on persons other than the Applicant.

The Commission encourages electronic submission of protests and interventions in lieu of paper using the ''eFiling'' link at *http://www.ferc.gov.* Persons unable to file electronically should submit an original and 5 copies of the protest or intervention to the Federal Energy Regulatory Commission, 888 First Street NE., Washington, DC 20426.

This filing is accessible on-line at *http://www.ferc.gov,* using the ''eLibrary'' link and is available for review in the Commission's Public Reference Room in Washington, DC. There is an ''eSubscription'' link on the Web site that enables subscribers to receive email notification when a document is added to a subscribed docket(s). For assistance with any FERC Online service, please email *FERCOnlineSupport@ferc.gov,* or call (866) 208–3676 (toll free). For TTY, call (202) 502–8659.

Comment Date: 5:00 p.m. Eastern Time on January 5, 2016.

Dated: December 17, 2015.

Nathaniel J. Davis, Sr.,

Deputy Secretary.

[FR Doc. 2015–32270 Filed 12–22–15; 8:45 am]

BILLING CODE 6717–01–P

DEPARTMENT OF ENERGY

Federal Energy Regulatory Commission

[Docket No. IN16–2–000]

ETRACOM LLC; Michael Rosenberg; Notice of Designation of Commission Staff as Non-Decisional

December 16, 2015.

With respect to an order issued by the Commission on December 16, 2015 in the above-captioned docket, with the exceptions noted below, the staff of the Office of Enforcement are designated as non-decisional in deliberations by the Commission in this docket.[1] Accordingly, pursuant to 18 CFR 385.2202 (2015), they will not serve as advisors to the Commission or take part in the Commission's review of any offer of settlement. Likewise, as non-decisional staff, pursuant to 18 CFR 385.2201 (2015), they are prohibited from communicating with advisory staff concerning any deliberations in this docket.

Exceptions to this designation as non-decisional are:

Larry Parkinson
Lee Ann Watson
Janel Burdick
Maria Brun
Sam Bonar
Gabriel Sterling
Carol Clayton
Wesley Heath
Seema Jain

[1] *ETRACOM LLC and Michael Rosenberg,* 153 FERC ¶ 61,314 (2015).

Ave. SW., Room 3E207, Washington, DC 20202. Telephone: (202) 453–6891 or by email: *ddra@ed.gov.*

If you use a TDD or a TTY, call the FRS, toll free, at 1–800–877–8339.

If you request an application from ED Pubs, be sure to identify this program as follows: CFDA number 84.022A.

VIII. Other Information

Accessible Format: Individuals with disabilities can obtain this document and a copy of the application package in an accessible format (*e.g.,* braille, large print, audiotape, or compact disc) on request to the program contact person listed under **FOR FURTHER INFORMATION CONTACT** in section VII of this notice.

Electronic Access to This Document: The official version of this document is the document published in the **Federal Register**. Free Internet access to the official edition of the **Federal Register** and the Code of Federal Regulations is available via the Federal Digital System at: *www.gpo.gov/fdsys.* At this site you can view this document, as well as all other documents of this Department published in the **Federal Register**, in text or PDF. To use PDF you must have Adobe Acrobat Reader, which is available free at the site.

You may also access documents of the Department published in the **Federal Register** by using the article search feature at: *www.federalregister.gov.* Specifically, through the advanced search feature at this site, you can limit your search to documents published by the Department.

Dated: March 17, 2016.

Lynn B. Mahaffie,

Deputy Assistant Secretary for Policy, Planning, and Innovation, Delegated the Duties of Assistant Secretary for Postsecondary Education.

[FR Doc. 2016–06485 Filed 3–21–16; 8:45 am]

BILLING CODE 4000–01–P

DEPARTMENT OF ENERGY

[OE Docket No. EA–417]

Application to Export Electric Energy; Tenaska Energía de Mexico, S. de R.L. de C.V.

AGENCY: Office of Electricity Delivery and Energy Reliability, DOE.

ACTION: Notice of application.

SUMMARY: Tenaska Energía de Mexico, S. de R.L. de C.V. (Applicant or TEM) has applied for authority to transmit electric energy from the United States to Mexico pursuant to section 202(e) of the Federal Power Act.

DATES: Comments, protests, or motions to intervene must be submitted on or before April 21, 2016.

ADDRESSES: Comments, protests, motions to intervene, or requests for more information should be addressed to: Office of Electricity Delivery and Energy Reliability, Mail Code: OE–20, U.S. Department of Energy, 1000 Independence Avenue SW., Washington, DC 20585–0350. Because of delays in handling conventional mail, it is recommended that documents be transmitted by overnight mail, by electronic mail to *Electricity.Exports@hq.doe.gov,* or by facsimile to 202–586–8008.

SUPPLEMENTARY INFORMATION: Exports of electricity from the United States to a foreign country are regulated by the Department of Energy (DOE) pursuant to sections 301(b) and 402(f) of the Department of Energy Organization Act (42 U.S.C. 7151(b), 7172(f)) and require authorization under section 202(e) of the Federal Power Act (16 U.S.C. 824a(e)).

On March 10, 2016, DOE received an application from TEM for authority to transmit electric energy from the United States to Mexico as a power marketer for a five-year term using existing international transmission facilities. TEM will be submitting an application requesting the Federal Energy Regulatory Commission (FERC) authorization to make wholesale power sales at market-based rates. TEM will also register with the Public Utility Commission of Texas (the PUCT).

In its application, TEM states that it does not own or control any electric generation or transmission facilities, and it does not have a franchised service area. The electric energy that TEM proposes to export to Mexico would be surplus energy purchased from third parties such as electric utilities and Federal power marketing agencies pursuant to voluntary agreements. The existing international transmission facilities to be utilized by the Applicant have previously been authorized by Presidential permits issued pursuant to Executive Order 10485, as amended, and are appropriate for open access transmission by third parties.

Procedural Matters: Any person desiring to be heard in this proceeding should file a comment or protest to the application at the address provided above. Protests should be filed in accordance with Rule 211 of the Federal Energy Regulatory Commission's (FERC) Rules of Practice and Procedures (18 CFR 385.211). Any person desiring to become a party to these proceedings should file a motion to intervene at the above address in accordance with FERC Rule 214 (18 CFR 385.214). Five copies of such comments, protests, or motions to intervene should be sent to the address provided above on or before the date listed above.

Comments and other filings concerning TEM's application to export electric energy to Mexico should be clearly marked with OE Docket No. EA–417. An additional copy is to be provided to Norma Iacovo, Tenaska Power Services Co., 1701 E. Lamar Blvd., Suite 100, Arlington, TX 76006 and Neil Levy, 1700 Pennsylvania Ave. NW., Washington, DC 20006.

A final decision will be made on this application after the environmental impacts have been evaluated pursuant to DOE's National Environmental Policy Act Implementing Procedures (10 CFR part 1021) and after a determination is made by DOE that the proposed action will not have an adverse impact on the sufficiency of supply or reliability of the U.S. electric power supply system.

Copies of this application will be made available, upon request, for public inspection and copying at the address provided above, by accessing the program Web site at *http://energy.gov/node/11845,* or by emailing Angela Troy at *Angela.Troy@hq.doe.gov.*

Issued in Washington, DC, on March 14, 2016.

Christopher Lawrence,

Electricity Policy Analyst, Office of Electricity Delivery and Energy Reliability.

[FR Doc. 2016–06400 Filed 3–21–16; 8:45 am]

BILLING CODE 6450–01–P

DEPARTMENT OF ENERGY

Extension of Comment Period; Invitation for Public Comment To Inform the Design of a Consent-Based Siting Process for Nuclear Waste Storage and Disposal Facilities

AGENCY: Fuel Cycle Technologies, Office of Nuclear Energy, Department of Energy.

ACTION: Notice of extension of comment period.

SUMMARY: The U.S Department of Energy (DOE) is extending the comment period provided in the notice entitled ''Invitation for Public Comment to Inform the Design of a Consent-Based Siting Process for Nuclear Waste Storage and Disposal Facilities'' that appeared in the **Federal Register** of December 23, 2015. That notice announced that DOE is planning to design a consent-based siting process to establish an integrated waste management system to transport, store, and dispose of spent nuclear fuel

and high-level radioactive waste and requested comments by June 15, 2016. DOE is extending the comment period to July 31, 2016.

DATES: DOE is extending the comment period for the ''Invitation for Public Comment to Inform the Design of a Consent-Based Siting Process for Nuclear Waste Storage and Disposal Facilities'' to July 31, 2016.

ADDRESSES: You may submit questions or comments by any of the following methods:

Email: Responses may be provided by email to *consentbasedsiting@hq.doe.gov*. Please include ''Response to IPC'' in the subject line.

Mail: Responses may be provided by mail to the following address: U.S. Department of Energy, Office of Nuclear Energy, Response to IPC, 1000 Independence Ave. SW., Washington, DC 20585.

Fax: Responses may be faxed to 202–586–0544. Please include ''Response to IPC'' on the fax cover page.

Online: Responses will be accepted online at *www.regulations.gov*.

FOR FURTHER INFORMATION CONTACT: Requests for further information should be sent to *consentbasedsiting@hq.doe.gov*. Please include ''Question on IPC'' in the subject line.

SUPPLEMENTARY INFORMATION:

Submitting Comments

Instructions: Submit comments via any of the mechanisms set forth in the **ADDRESSES** section above. Respondents are requested to provide the following information at the beginning of their response to this IPC:

State, tribal, community, organization, public or individual name;

State, tribal, community, organization, public or individual point of contact; and

Point of contact's address, phone number, and email address.

If an email or phone number is included, it will allow the DOE to contact the commenter if questions or clarifications arise. No responses will be provided to commenters in regards to the disposition of their comments. All comments will be officially recorded without change or edit, including any personal information provided. Personal information (other than name) will be protected from public disclosure upon request.

Please identify your comments as responding to a specific question posed in the Invitation for Public Comment, if possible. Respondents may answer as many or as few questions as they wish. Any additional comments that do not address a particular question should be included at the end of your response to this IPC as ''Additional Comments.''

DOE would appreciate early input in order to identify initial interest and concerns, as well as any early opportunities. Amended or revised inputs from commenters are also welcome throughout the comment period to help DOE develop this process. Comments received after the closing date will be considered as the planning process progresses; however, the DOE is only able to ensure consideration of comments received on or before the closing date as the initial phase of the consent based siting process is developed. Subsequent comments and input will also be welcome as DOE views this as a core component of a phased and adaptive consent-based siting process.

Privacy Act: Data collected via the mechanisms listed above will not be protected from the public view in any way.

Issued in Washington, DC, on March 9, 2016.

Andrew Richards,

Chief of Staff, Office of Nuclear Energy, Department of Energy.

[FR Doc. 2016–05797 Filed 3–21–16; 8:45 am]

BILLING CODE 6450–01–P

DEPARTMENT OF ENERGY

Federal Energy Regulatory Commission

[Project No. 1494–433]

Grand River Dam Authority; Notice of Request To Reduce Comment Period From 60 to 30 Days on Draft Amendment Application and Soliciting Comments, Motions To Intervene, and Protests

Take notice that the following hydroelectric application has been filed with the Commission and is available for public inspection:

a. *Application Type:* Request to reduce the comment period from 60 to 30 days for a draft amendment application to permanently modify the reservoir elevation rule curve under Article 401 of the project license.

b. *Project No:* 1494–433.

c. *Date Filed:* March 15, 2016.

d. *Applicant:* Grand River Dam Authority (GRDA).

e. *Name of Project:* Pensacola Hydroelectric Project.

f. *Location:* The project is located on the Grand River in Craig, Delaware, Mayes, and Ottawa Counties, Oklahoma.

g. *Filed Pursuant to:* Federal Power Act, 16 U.S.C. 791(a)–825(r).

h. *Applicant Contact:* Tamara Jahnke, Grand River Dam Authority, 226 West Dwain Willis Ave, P.O. Box 409, Vinita, OK 74301; telephone (918) 256–5545.

i. *FERC Contact:* B. Peter Yarrington, telephone (202) 502–6129 and email *peter.yarrington@ferc.gov;* or Linda Stewart, telephone (202) 502–6680 and email *linda.stewart@ferc.*

j. Deadline for filing comments, motions to intervene, and protests is 15 days from the issuance date of this notice by the Commission. The Commission strongly encourages electronic filing. Please file comments using the Commission's eFiling system at *http://www.ferc.gov/docs-filing/efiling.asp*. Commenters can submit brief comments up to 6,000 characters, without prior registration, using the eComment system at *http://www.ferc.gov/docs-filing/ecomment.asp*. You must include your name and contact information at the end of your comments. For assistance, please contact FERC Online Support at *FERCOnlineSupport@ferc.gov*, (866) 208–3676 (toll free), or (202) 502–8659 (TTY). In lieu of electronic filing, please send a paper copy to: Secretary, Federal Energy Regulatory Commission, 888 First Street NE., Washington, DC 20426. The first page of any filing should include the project number (P–1494–433).

k. *Description of Request:* On March 15, 2016, GRDA filed with the Commission: (1) A draft amendment application to permanently modify the reservoir elevation rule curve under Article 401 of the Pensacola Project for Grand Lake O' the Cherokees, (2) a request for a temporary variance contained in the draft amendment application, and (3) a waiver request to reduce from 60 to 30 days the comment period for resource agencies, Indian tribes, and other stakeholders to provide comments on the draft amendment application mentioned above. The Commission's regulations at 4.38(a)(7) require GRDA to provide resource agencies, Indian tribes, and other stakeholders 60 days to provide comments on the above draft amendment application. GRDA requests Commission approval of a 30-day comment period instead to expedite the Commission's review of any final application filed with the Commission.

This notice solicits comments, motions to intervene, and protests on GRDA's request to reduce the comment period from 60 to 30 days as discussed above. Comments on the draft application and temporary variance request contained in the draft application should be filed directly with

APPENDIX B - LIST OF CONSENT-BASED SITING MEETINGS

This appendix lists meetings that DOE hosted, attended, and/or made presentations related to consent-based siting. Each of these meetings provided opportunities to discuss consent-based siting and nuclear waste management topics with individuals and groups and to listen, share information, and answer questions.

B.1 Consent-based siting public meetings

- January 20, 2016, "Kick-off" Public Meeting; Washington, DC
- March 29, 2016, Public Meeting; Chicago, IL
- April 11, 2016, Public Meeting; Atlanta, GA
- April 26, 2016, Public Meeting; Sacramento, CA
- May 24, 2016, Public Meeting; Denver, CO
- June 2, 2016, Public Meeting; Boston, MA
- June 23, 2016, Public Meeting; Tempe, AZ
- July 14, 2016, Public Meeting; Boise, ID
- July 21, 2016, Public Meeting; Minneapolis, MN
- September 15, 2016, Public Summary Meeting; Washington, DC

B.2 Additional meetings by request

- April 10, 2016, Meeting with Nye County Commission representatives; Atlanta, GA
- June 3, 2016, Public meeting with citizens at Wiscasset Community Center; Wiscasset, ME
- June 22, 2016, San Onofre Community Engagement Panel Meeting on Consolidated Interim Storage (public meeting); San Juan Capistrano, CA
- June 22-23, 2016, Small Group Forums with San Diego County Community Members, Non-governmental Organizations, Orange County Community Members, Southern California Edison; San Juan Capistrano, Oceanside, and Santa Ana, CA
- July 7, 2016, Meeting with Nye County Commission representatives; Washington, DC
- July 12, 2016, Meeting with Shoshone-Bannock Tribes Department of Public Safety; Fort Hall, ID
- July 22, 2016, Meeting with Prairie Island Indian Community Tribal Council; Welch, MN

B.3 Meetings and conferences

- January 12-14, 2016, Institute of Nuclear Materials Management 30th Spent Fuel Seminar; Arlington, VA
- January 27, Meeting with Natural Resources Canada; Ottawa, Canada
- January 28, Meeting with Nuclear Waste Management Organization; Toronto, Canada

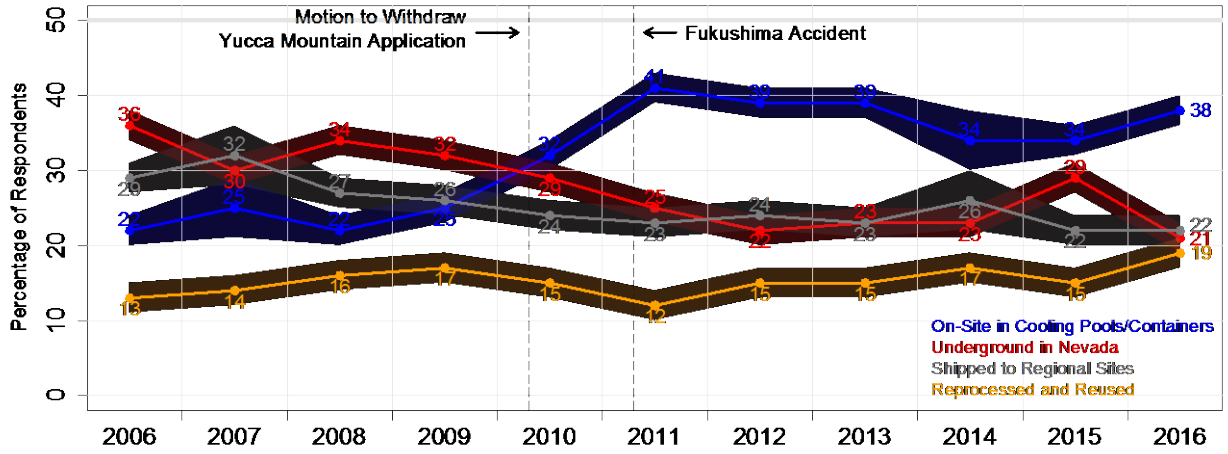
- February 2, 2016, US Nuclear Infrastructure Council Members Meeting; Washington, DC
- February 16, 2016, Nuclear Waste Strategy Coalition, Washington, DC
- February 17-18, 2016, Energy Community Alliances Peer Exchange Meeting; Austin, TX
- March 1, 2016, Stakeholders for Nuclear Waste Reform/Nuclear Energy Institute; Washington, DC
- March 2-3, 2016, DOE Office of Nuclear Energy Transportation Core Group; Washington, DC
- March 6-10, 2016, Waste Management Symposia 2016; Phoenix, AZ
- March 8, 2016, Meeting with Chicago Bridge and Iron (CB&I); Phoenix, AZ
- March 8-10, 2016, U.S. Nuclear Regulatory Commission's Regulatory Information Conference; North Bethesda, MD
- March 9, 2016, Consent-based Siting Dialogue with DOE in conjunction with Waste Management Symposium 2016; Phoenix, AZ
- March 9-10, 2016, Stanford, CISAC Reset of Nuclear Waste Management and Policy
- March 16, 2016, National Association of Regulatory Utility Commissioners (NARUC); Teleconference
- March 17, 2016, Environmental Council of the States (ECOS); Teleconference
- April 5, 2016, Nuclear Waste Technical Review Board Staff Discussion; Washington, DC
- April 6, 2016, Nuclear Energy Advisory Committee – Fuel Cycle Subcommittee Meeting; Washington, DC
- April 25-28, 2016, Nuclear Energy Tribal Working Group; Fort Hall, ID
- May 3-5, 2016, Nuclear Energy Institute, Used Fuel Management Conference; Orlando, FL
- May 11, 2016, National Governors Association, 2016 Federal Facilities Task Force Spring Meeting; Henderson, NV
- June 6, 2016, Tribal Caucus; Orlando, FL
- June 7-9, 2016, National Transportation Stakeholders Forum; Orlando, FL
- June 12-16, 2016, American Nuclear Society Annual Meeting; New Orleans, LA
- June 15-17, 2016, Nuclear Energy Legislative Working Group; Idaho Falls, ID
- June 17, 2016, Nuclear Energy Advisory Committee Meeting; Washington, DC
- June 30, 2016, U.S. Senate Committee on Energy and Natural Resources Briefing; Washington, DC
- July 26, 2016, Council of State Governments Webinar on Nuclear Waste Solutions; Webinar
- July 27-28, 2016, Nuclear Energy Tribal Working Group; Augusta, GA
- August 17-18, 2016, DOE Office of Nuclear Energy Transportation Core Group; Chicago, IL
- August 24, 2016, Nuclear Waste Technical Review Board Meeting; Washington, DC
- September 6-9, 2016, 2016 RadWaste Summit; Las Vegas, NV

APPENDIX C - PUBLIC PERSPECTIVES ON WASTE STORAGE AND DISPOSAL: AN OVERVIEW OF THE ENERGY AND ENVIRONMENT SURVEY SERIES (2006–2016)

As described in this report, the U.S. Department of Energy (DOE) launched a nationwide consent-based siting initiative in December 2015. The initiative commenced with an Invitation for Public Comment in the Federal Register that solicited input on important considerations about the design of a fair and effective siting process. Following that invitation, DOE organized a series of public and stakeholder meetings that were designed to gather additional comments about the design of a consent-based siting process. These efforts are complemented by an ongoing, decade-long collaborative project supported by DOE, Sandia National Laboratories (SNL), and the University of Oklahoma (OU). Known as the *Energy and Environment* (EE) project, this collaboration aimed to explore public perspectives on nuclear waste storage and disposal and consent-based siting using OU-owned data from nationally representative surveys that are administered every year. Results from the EE project complement the input collected in Phase 1 of DOE's consent-based siting process and are briefly described in this appendix.

The EE project was initiated in 2006 with support from DOE, SNL, Texas A&M University, and the University of New Mexico. The project was designed to analyze baseline data on public views about energy security, perceptions of nuclear energy, and preferences regarding nuclear waste management options, including transportation, storage, and disposal (Jenkins-Smith and Herron 2007). In subsequent years, the EE project has continued to analyze these concepts in the context of changing national priorities, concerns, and evolving international and domestic events (such as the nuclear accident at Fukushima in March 2011 and the incident at the Waste Isolation Pilot Plant in New Mexico in February 2014). These analyses provide critical information about the evolution of public perspectives on nuclear energy and nuclear waste management. For example, Figure 1 shows the evolution of public knowledge about nuclear waste management in the U.S. in relation to the motion to withdraw the Yucca Mountain license application (in March 2010) and the Fukushima accident.

Figure C.1: To the best of your knowledge, what is being done currently with most of the spent nuclear fuel produced in the U.S.? (2006–2016)



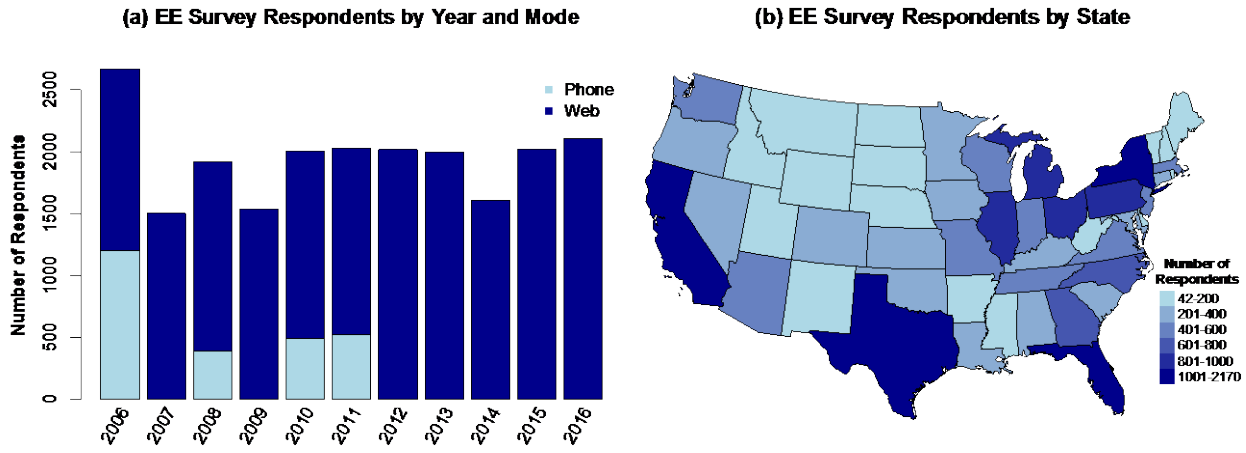
In 2010, OU and SNL established a jointly run Center for Energy, Security, and Society (CES&S), which now manages the EE survey series. Motivated by the 2012 report of the Blue Ribbon Commission on America's Nuclear Future (BRC), a section on consent-based siting was added to solicit public perspectives on a number of questions, such as:

1. How should consent be defined and registered?
2. Who should be allowed to block/veto a siting decision?
3. When should host communicates be allowed to withdraw consent?
4. What should come first, a technical or social evaluation of a potential host community?
5. Who should manage a consent-based siting process?
6. Does public/community consent increase the legitimacy of siting decisions and, consequently, support for the decisions that are made?

The EE project has relied on a series of 11 annual surveys, one for each year from 2006 to 2016. Each year, the project begins with a "concept development" phase, where OU and SNL researchers in the CES&S collaborate with specialists at DOE and other organizations to define ongoing challenges and emergent issues (concepts) associated with nuclear energy, nuclear waste management, and consent-based siting in the U.S.

Following the design phase, the survey process proceeds to the "administration" phase, where researchers at OU design and implement the survey.[5] Approximately 2,000 U.S. residents (18 or older) complete a survey each year. Each survey takes an average of 30 minutes to complete. The mode of data collection has included both phone and Internet surveys. In 2006, 2008, 2010, and 2011, data collection included both phone and Internet surveys to test the comparability of results using different modes of communication. Analysis indicated that the results were comparable, so the 2007, 2009, 2012, 2013, 2014, 2015, and 2016 surveys were administered exclusively on the Internet.

[5] From 2006 through 2011, survey design and data collection were funded by SNL. Beginning in 2011, survey design and survey data collection have been independently funded by the University of Oklahoma.



To ensure that survey results are comparable over time, across modes, and generalizable to the U.S. population, U.S. Census estimates are used to define pre-survey quotas and calculate post-survey adjustments (weights). The quotas and weights account for gender, age, race, Hispanic ethnicity, and region.

When the administration phase is complete, the survey moves on to the "analysis" phase, where researchers at CES&S collaborate with staff at DOE, SNL, and other organizations to assess and disseminate results by way of multiple outlets and venues, including DOE briefings, in-depth presentations at SNL, SAND reports, and peer-reviewed journal articles.

Overall, the EE project has provided valuable insights into the perspectives of U.S. residents on nuclear materials management, with a specific focus on transport, storage and disposal of spent nuclear fuel. Annual surveys conducted over the past decade have allowed researchers to track evolving public views and preferences as major events have unfolded (e.g., the Fukushima nuclear accident in 2011) and as design and program changes have taken place. These perspectives serve as an important complement to the input obtained through DOE's regional public meetings between 2015 and 2016.