WM2016 Conference Panel Report

PANEL SESSION 39: **Consent Based Siting—Opportunities and Challenges for Siting Disposal Facilities**

Co-Chairs: **Eric Knox,** *AECOM*
Roger Nelson, *US DOE-EM*

Panel Reporter: **Abraham Van Luik,** *US DOE-EM*

Panelists:

1. **Bruce McKirdy,** *Radioactive Waste Management (United Kingdom)*
2. **John Kotek,** *US Department of Energy, Office of Nuclear Energy*
3. **Betsy Madru,** *Waste Control Specialists*
4. **John Heaton,** *Carlsbad Mayor's Nuclear Task Force*
5. **Chuck Bernhard,** *Bernhard Consulting LLC*
6. **James Voss,** *Predicus LLC*

More than a hundred persons (~120 at the peak) participated in this diverse and hence interesting panel. It was diverse in terms of the viewpoints presented from the US panelists. It was interesting in part because the panelist from the UK described experiences in setting up and applying a "consent-based siting" process that the US audience could relate to since the US is now also designing such a process. The interest level was enhanced by the readily apparent enthusiasm of the two panelists representing proposed private spent nuclear fuel interim storage facilities in Texas and New Mexico, which made the news locally as well as nationally. A comment that made the national news was made by the last presenter (though it had also been made by several others) when he wondered out loud why the US DOE needs to design a process for finding a volunteer community to site a storage facility when there are already two such communities with sites, already using private resources to obtain licenses. The answer was that a level playing field needs to be created to allow other communities to also come forward if they wish, and receive government funding to allow them to participate in the siting process.

Summary of Presentations

Bruce McKirdy began by saying that in 2001, a government Committee on Radioactive Waste Management was set up that reported in 2006 that finding a willing host community is the key to siting a nuclear facility. This led to defining a consent-based siting policy in 2008 that was sent out to local authorities throughout England and Wales. There were three responses indicating interest. Two were from boroughs in Cumbria and one was from the county in which both resided. A vote three years later by borough councils and the county council showed the two boroughs willing to go forward, but not the county, and that stopped the process.

Feedback from several entities responding to the consultation documents they received without stating interest indicated that:

- they needed to know in advance of indicating interest if their geology was likely to be suitable or not (reluctance to take on political risk if geology was not suitable to begin with)
- the decision process needed better definition, basing a decision on action by the smallest elected council was not acceptable
- withdrawal rights needed to more rigorously explained, there is great distrust in the national government
- the planning regime was not clear—county level (local) control seemed lacking with the emphasis being on a national need
- inventory needs careful legal definition to assure that foreign waste is not allowed to be disposed of
- benefits in the widest sense need to be defined including socio-economic effects, community projects, infrastructure improvement, and grants

This feedback was used to define a 2014 consent-based siting program description document which is more developer-based than before and lays out a prospectus:

- it defines a series of activities such as a national geologic screening and a transparent planning process to be conducted at the federal level
- it defines a benefits package of a million Pounds per year in grants plus engagement funds (to hire expertise), which increases to >2.5 million if drilling starts, and increases as the siting project continues for 15 to 20 years

Discussion of this paper involved a question about the increase in community grants as the site characterization process proceeds. The answer was that this is being worked out by the government in this year. Another questioner asked what was meant by community schemes (projects) mentioned under benefits? The answer was public meetings and setting up an independent arbiter organization as a buffer between the implementer and the community. The idea is to lessen disruption of the community.

John Kotek described the current effort to build a new team to design and implement the consent based siting approach recommended by the Blue Ribbon Commission on America's Nuclear Future (BRC). Also in response to the BRC report the Administration has decided to allow the siting of a defense-waste-only repository.

A web-based invitation was issued to the American public to invite their suggestions for a consent-based process for siting a nuclear waste facility. Public meetings are being held across the country, and may extend beyond the current June deadline. Both the website and the meetings start with explanations of what waste is, where it comes from, and how it is stored.

The Department is not stuck with just the internet and the planned public meetings. There is an open invitation for any organization to request a visit from a staff member that can clarify the process that people are being invited to participate in. By Fall of 2016 the process, based on the input received, will be described in a document that will be released for final public comment.

A question was asked about the lessons learned from the recent experience of having to withdraw from North Dakota because of opposition to a DOE science project. The answer was that it had not been an example of a consent-based siting approach, although state and local contacts were made. The reaction in the proposed community was surprising but illustrates that communication efforts need to be relentless. A question was asked about the two volunteer sites and why this process was needed, at least for a storage facility? The answer was that it was important to go through this process to see if there are other communities who might be interested but need help in participating. A lesson taken from the Canadian experience is that broad communication may lead to additional interest expressions from communities.

Another participant suggested that the 2013 Administration statement severing the linkage between defense and civilian waste for disposal was unclear, a tighter strategy is needed to define the process from storage through disposal for these two waste sources. The panelist agreed and added that with new build reactors coming, they also need to be folded into a comprehensive and detailed strategy. A final question was about borehole disposal sites, and the answer was that they are not yet on the radar for siting, they are in the experimental stage now and not yet ready to be considered as part of the current storage and disposal site selection program.

Betsy Madru began by declaring that Texas is different. The Waste Control Specialists low-level waste disposal facility (WCS), the city of Andrews, and the State of Texas are all intertwined, giving a feeling of how consent-based siting actually works. WCS is the only facility in the US that was built after the Low-Level Waste Policy Act was passed. Nothing went quite as envisioned by that Act which assumed regional disposal facilities that would be government facilities, public facilities, not private ones. Texas, Maine and Vermont formed a compact in 2012. Maine dropped out. The WCS facility serves the compact states and much more. Thirty-six states are sending waste to WCS.

The Beltway around Washington, DC, just doesn't get it. The reality is that there are two companies seeking a license for large storage facilities. If the federal government creates a tightly prescriptive process, it may keep these two sites from being considered. Consent is not undefined or magical. DOE-EM has many sites. There are four commercial low-level waste sites. Consent is not new. John Heaton and Betsy Madru (representing the two commercial sites

seeking a spent fuel storage license) sit on many advisory panels together. We know what consent based is.

The town of Andrews passed a $75 million bond to support the start of WCS That is consent. WCS is obligated to provide benefit to the community and the State, because consent has to be maintained, it is not a one-time thing. WCS found that a Vice President of Community Affairs was needed. Andrews needs to be kept informed of new business opportunities. Sixty to 100 years of storage (operations) has been communicated to the community and the State.

A prescriptive approach to defining consent based siting approach will not work. If your proposed site is technically sound, legally and politically viable, and you have some degree of public support, then with good community communications and relations, within four years you will have consent based siting! It is a process.

In February 2015, WCS informed the Nuclear Regulatory Commission of its intent to file a License Application in April of 2016 for an interim storage facility. A year before that time WCS communicated with community and State audiences about what this meant. People were never surprised; they were told what WCS was intending to do.

WCS is a perfect public/private partnership, with WCS operating then closing the waste disposal facility and the State then taking title to the waste. WCS has 180 employees. It provides $50K annually to Andrews charities, and by State law pays a 5% tax to both the host community and the State.

For the federal government to use a private interim storage site for spent fuel a federal law change is needed. To avoid eliminating a private site from consideration the consent based siting process needs to be flexible, not one-size fits all. Willing and informed are concepts to be defined by potential host communities and not by DOE. There are market forces that can and should influence selection, let sites compete, don't pick winners and losers now.

90% of Texas land is privately owned. The Texas Commission on Environmental Quality has both an environmental safety and an economic development role. Texas is different.

A commenter described the basis for consent in New Mexico: both the State legislature and the county commissions of two counties support the proposed interim storage project. The legislature voted on a Memorial favoring the project and got 75%, bipartisan approval. "Consent based" has been accomplished. The panelist responded by saying this shows a different, but still valid process.

A questioner asked if Eunice, New Mexico, the nearest town to the WCS facility, was included in the communications described. The answer was yes. Another questioner asked about the education strategy. The answer addressed the communications efforts as educational efforts, and described the regional focus with openness to invitations to address local and regional groups or committees. No request for communication is denied. To maintain consent, communications must be continuous. The questioner suggested his question was about education in the school sense, and was told there was an active intern program with both technical and policy oriented participants. Staying engaged with educational institutions is important to the State.

A last comment suggested this type of away from reactor interim storage facility is not needed from a safety or security standpoint. And it has to be moved again when there is a final repository. The panelist suggested this effort would provide an invaluable lesson and challenge to DOE to obtain the routing consent and the new equipment needed to carry out a massive transportation campaign. The government will, because of using this type of facility, gain the consent-experience and equipment needed for future transportation campaigns.

Another audience member said the reason for doing this was fiscal, it would save the taxpayers money. The panelist did not respond but one of the Co-Chairs offered that the failure to take waste under the Nuclear Waste Policy Act Standard Contract was leading to Judgment Fund penalty payments of from $500 million to potentially a billion per year. Keeping security and safeguards at closed reactors costs many hundreds of thousands of dollars per year per site. That is a very sound reason for DOE to take title to the spent fuel and move it to a centralized storage facility as soon as safely practicable.

John Heaton began by reiterating the New Mexico State House and Senate's both passing a Memorial in favor of the proposed "Eddy-Lea Alliance" interim spent fuel storage facility project. City, county, and state approval exists.

The nation has serious nuclear waste management issues. After almost 50 years of thought and effort what the nation has is:

- Good recommendations from the Blue Ribbon Commission on America's Nuclear Future (BRC)
- A goal of having centralized interim storage (CIS) by 2021
- A goal of having deep geologic repository by 2048
- A potential for up to 300 years of storage in a CIS facility\

Based on the BRC report, there is a US Senate Bill proposed to reorganize the repository effort that is "dead on arrival" because the House of Representatives wants Yucca Mountain or nothing. For the same reason Texas Representative Conaway's bill to allow private facilities to be used for spent fuel storage by DOE is dead on arrival.

The 2015 Administration decision to decouple defense and civilian high level waste disposal does not add clarity. Federally, radioactive waste disposal is in disarray, it is a mess.

What is the point of seeking volunteers for a CIS when you have two already? (Referring to the ELEA site in New Mexico, and the WCS site in Texas.)

What is needed is for DOE to publish objective criteria:

- State support for a facility is a key requirement
- A determination needs to be made if it can be a privately owned facility
- A decision needs to be made to allow a public-private partnership
- Financial incentives need to be defined
- The consent process itself needs to be funded (it is not a one-time thing)
- A designation should be made of the level in state government that can sign a binding agreement
- Transportation responsibility needs to be defined (and it should be DOE's responsibility)
- DOE's requirement for a host agreement need to be stipulated
- Criteria for down-selecting from among volunteer sites need to be stated

Sustaining local and state confidence is a continuing challenge. Consent-based will have a different meaning for every state or region. Binding agreements are the key to allowing site characterization and the startup of a facility's operations.

Public meetings on siting a facility are typically poorly attended, can that really provide a basis for consent? A workable solution is to bring a host-agreement to such meetings for comment on specific features. Public meetings are famous for statement about not liking or wanting a facility, which is not helpful. Asking for comment on a specific point in the agreement would help focus the discussion. The agreement ought to be signed by a state's governor and the DOE, with local consent derived from community and private corporate feedback.

A list is needed that outlines what is needed for participation, including siting requirements and agreement criteria. DOE needs to define:

- Who signs the agreement
- What the incentives are
- What the limits are (inventory and such)
- What the enforceable deadlines are, and a specification of where it will go after the deadline to remove the material from the CIS
- Nuclear Waste Policy Act restrictions need to be lifted
- A permanent funding mechanism must be created (no annual budget fluxes and fights)
- Limits on DOE actions need to be defined

- Funding must be provided for consent-basis maintenance communication and education
- DOE must specify that it assumes the transportation role
- DOE must establish and maintain consent bases along transportation routes

A context must be defined for a contract (binding agreement) with a host community and state. The role of private NRC licensees needs to be defined. There are three phases that ought to be covered by such an agreement/contract:

1. Preliminary: before site characterization
2. Intermediate: site characterization and other pre-operational activities
3. Final: Congressional approval

Recommendation: The DOE should take possession of the waste and contract with a private entity for CIS services.

The ELEA/HOLTEC consortium has strong state and legislative support in New Mexico. Governor Martinez sent a letter of support to Secretary Moniz. There is public support for HOLTEC and its licensing effort for the ELEA CIS.

The US is facing many and much more dangerous issues (and ought to get on with solving this one).

The first questioner suggested that it is a mistake for DOE to state its incentives up front, they should be tailored to local background conditions. The presenter disagreed, one deal, take it or leave it.

The second questioner suggested there were three approaches to doing a consent agreement (with Congressional approval), (1) before characterization, (2) before construction, or (3) before operations. Should it be done early? The presenter answered that it depended on whether the subject was a CIS or a deep geologic repository facility. For the latter there needs to be an agreement in place to allow repository research that also defines when and after what work the community can bail out of the process.

Chuck Bernhard explained he was now at Oak Ridge in Tennessee and prior to this had been part of the Department of Development for Carlsbad, New Mexico. Defining consensus is being attempted in Senate Bill 854: (1) affected communities say yes or no and on what terms, (2) interested parties must be heard, (3) the approach must be flexible, and (4) decisions must be based on sound science.

The recent North Dakota experience (rejection of a proposed DOE borehole test by a community—even though no radioactive waste was to be emplaced) illustrates the challenges faced in defining the priorities of stakeholders and even who the stakeholders are. Location issues overshadow operations issues.

Confidence needs a sustained oversight group, like the Environmental Evaluation Group in New Mexico, which was wrongheadedly disbanded after WIPP opened.

There are 5 P's:

1. Place—requiring technical and geographic criteria
2. Process—the terms that say how one is to get to a qualified site
3. Political alignment—at various levels
4. Package of incentives—stated up front
5. Perpetual—(ongoing) oversight process

Consensus needs to be defined and the DOE Office of Nuclear Energy (NE) is doing that. But why, when it already has two volunteers? —an aside picked up by media).

Consent needs to be repaired at WIPP if it is to not see restart delays.

WCS' respect for the state borders is legitimate (meaning WCS ought to consider its New Mexico neighbors as an affected community).

State governors ought to be involved in defining consensus for their state.

Bringing in newer technology to optimize a system with time may help maintain consensus.

No questions were asked.

James Voss recounted some of the history with consent-based siting in the US, referring to the Monitored Retrievable Storage effort which failed. Similarly, the DOE Office of Nuclear Waste Isolation (ONWI) failed to do research in Wisconsin because of local and state opposition, there was no trust, there was hate for DOE.

A paper presented at this Symposium listed 39 nuclear waste facility siting efforts with only two successes. In Australia, the Nuclear Commission asked about the Beatty low-level waste site explosion to inform their citizenry which is asking safety questions. In terms of WIPP, even politicians, decision-makers, do not know the difference between waste types and their origins.

The successfully sited facilities are WCS and WIPP. A DOE-Environmental management (EM) cell was needed at WCS and a DOE-Texas agreement resulted. The agreement says this waste remains DOE's waste. WIPP similarly has agreements with New Mexico. There is no singular model of consent. If there is governor-level consent, it is consent-based siting.

If ELEA and WCS receive NRC licenses, a law change will be needed to allow DOE to use these facilities.

Korea had five successive failures for low-level waste sites. There were protests in spite of money being offered. People did not want to be bought! The sixth effort was a success. The process there was first education/communication, and only later money was discussed.

In Germany there was success in siting a spent fuel storage facility. Rules were set out ahead of time, they worked against the company's interests but were adhered to.

Sweden and Finland succeeded because the proponents were part of the community. This is also the case at WCS and WIPP.

75% of people polled thought there would be many instant deaths if there is an accident at a nuclear waste facility. To them risk equals consequences. We have not done well communicating risk. There is no trust for nuclear entities, there is only trust for neighbors, so a facility needs to place its people in the potentially affected community as true neighbors.

The public must be convinced of there being a need for the proposed facility. A European study showed the public trusted regulators, not implementers, and elected officials are universally distrusted.

There were no questions after this presentation, the floor was opened for general comments and questions to any or all panelists.

General Discussion

1. Comment: the US Nuclear Regulatory Commission (NRC) has licensed spent fuel storage facilities, the licensing process needs to be shared as part of the educational program.
   Response: agreed, there is a general need to learn to listen.
2. Question: what role do regulators play?
   Response: to have a rigorous licensing process.
   Restatement of question: what about during the siting process, the licensing process matters, yes?
   Response: in the UK the public and local politicians trust the regulators more than the implementers.
   Response: in New Mexico states are not seen as being as rigorous as the NRC, so it was important in discussing the ELEA proposal to tell that it would be NRC licensed
3. Question: it is a social challenge, there is a pain reaction after the mere mention of the words nuclear waste. How can we educate the public?
   Response: it helps to talk about successes such as WCS, WIPP and EM's cleaned up sites.

Response: The recent North Dakota experience is a case in point. Need is for speaker bureaus. The educational advertisements by oil and gas and other energy organizations are examples to follow. Industry needs to do this, to tell the story.
Response: Neighbors have to become neighbors. WCS started up with hazardous waste disposal. Going to nuclear took a vote, it passed by only three votes. People from as far away as Odessa took notice. It took incredible determination on the part of WCS to gain the consensus they now have.
Response: invoking eminent domain is a last ditch approach, then one has to deal with new animus.

4. Comment: DOE is a group of experts, but with no expertise in sociology. What is needed is a sociologically smart approach. The future is bleak if DOE continues with a technical approach only. Economics is also important. Consent is a continual process, trust needs to be earned and kept.
   Response: DOE agrees and NE is adding a sociologist and an economist to its siting team.
5. Comment: we need to start in high school teaching reality about radioactive/nuclear risks.
   Response: DOE is working on the next generation of nuclear technology and is seeing a new generation of people coming into nuclear because of climate change risks, so there is hope for new nuclear energy progress.
6. Comment: The EEG in New Mexico was good for creating trust. Same is true in Sweden. Giving the local community resources to allow them to understand and follow the project and its progress. Cutoff of a potentially affected community should be allowed at a pre-set boundary.
7. Question: at what point is the governor's word of support needed?
   Response; as soon as possible in principle but it takes time to get to a firm written agreement.
   Response: in Texas every level of government was briefed (on current storage facility plan), once Congress allows the use of private storage, then we will get the state government involved at the legislative and executive levels.
   Response: we (DOE) have learned from the past. The Nuclear Waste Negotiator asked for state level consent too early. What is needed is local support, long-term, then state level support can begin.