

THE NUCLEAR NEWS INTERVIEW

## Ward Sproat: Comments on the DOE's Yucca Mountain Project

Edward "Ward" Sproat is the director of the Department of Energy's Office of Civilian Radioactive Waste Management. His main task is to move the government's proposed Yucca Mountain high-level radioactive waste repository forward, in spite of the political roadblocks being thrown up along the way.

Sproat has been on the job since last June. As a political appointee, his term is likely to end when the Bush administration leaves office in 2008. When that time comes, however, he said he'd like to exit with a management team in place that will continue to emphasize the improvements that he is establishing involving processes, skills, and the culture needed to execute the Yucca Mountain program.

Prior to joining the DOE, Sproat enjoyed a career on the private side of the nuclear industry. Among other

*The director of the Yucca Mountain Project is working to develop a good relationship with Nevada officials in order to move the proposed repository toward completion and opening.*



**Sproat:** Trying to give Yucca Mountain's supporters "a sense of optimism."

things, he was a promoter of the pebble bed modular reactor, and in 2000 he was the lead negotiator for PECO Energy when that utility became the first to reach a settlement with the DOE over cost recovery for on-site spent fuel storage in a case involving the Peach Bottom nuclear plant. He now leads an office of about 220 DOE employees on the Yucca Mountain Project.

Sproat, a member of the American Nuclear Society since 1988, talked about Yucca Mountain and other matters with Rick Michal, *NN* senior editor. The interview was conducted on November 8, one day after the midterm elections.

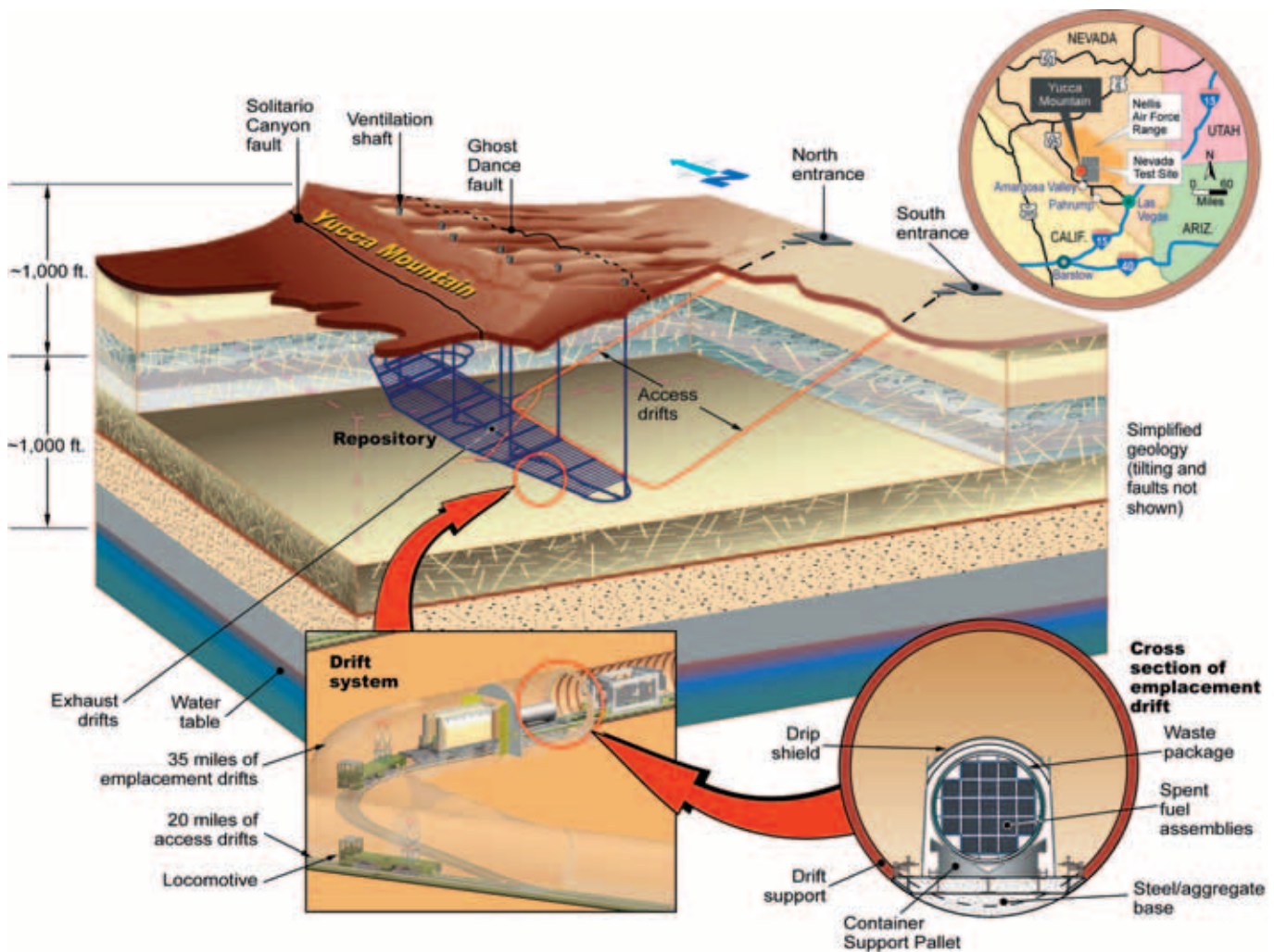
*Why did you leave a successful career as a consultant, and before that as a nuclear industry executive, to lead what some might consider the Department of Energy's most beleaguered project?*

In 2002, I was on loan from Exelon as chief operating officer of the Pebble Bed Modular Reactor joint venture in South Africa. When my contract with PBMR was completed, I had discussions with Oliver Kingsley, who was with Exelon at the time, and decided that the next step in my career was to do something that could help advance the nuclear energy option in the

United States. I saw only two ways to do that. One was to help build the next nuclear plant. The second was to fix the Yucca Mountain situation. Of course, I opted to build the next nuclear plant. I formed a company with Corbin McNeill, who had recently retired as chief executive officer of Exelon, to demonstrate the pebble bed as part of the DOE's Next Generation Nuclear Plant project. We wanted to demonstrate hydrogen-electricity cogeneration using pebble-bed technology. For a number of reasons, that project turned from a near-term demonstration into a longer-term R&D ef-

fort, something that neither he nor I was really interested in doing. At that point, we dropped out of pursuing the "demonstration plant" route, and I was asked about my interest in taking over the Yucca Mountain Project. Eventually, Secretary of Energy Sam Bodman asked me if I would be willing to do it, and I said yes. The president nominated me, and eight months later I was confirmed by the Senate. That's how I got here.

*How are your relations with the Nevada lawmakers?*



Cutaway view of the proposed spent fuel/HLW repository at Yucca Mountain.

In my second week on the job, I met with Rep. Jon Porter [R.] of Nevada in an effort to establish a working relationship with him. He spent some time making sure I understood what his concerns were and what Nevada residents' concerns were with the Yucca Mountain Project. Since that time, I've taken him on a tour of Yucca Mountain. I've also met with Sen. John Ensign [R.] and with some staff of Sen. Harry Reid [D.]. I've taken what I think is a proactive approach in establishing a working relationship with the Nevada delegation. I've also met with a number of Nevada county executives from the surrounding counties affected by the project and have established quarterly meetings with them that take place in Nevada. I'm working to develop a good relationship with the state to try to overcome the adversarial relationships that I think existed in the past.

*What effect will a change in Congress have on the Yucca Mountain Project?*

I don't think there's going to be a significant impact. The project enjoys bipartisan support in both houses of Congress. That said, whether or not the Congress is able to

pass the legislation that we would like them to pass remains to be seen.

*How confident are you that the DOE will have Yucca Mountain's license application to the Nuclear Regulatory Commission by June 2008, and the repository open in March 2017, as per the DOE's schedule?*

I am 100 percent confident that the DOE will have the license application to the NRC by June 2008. And as I said in my testimony to the House this past September, the March 2017 date is the "best achievable" schedule. A lot of people have said that it's not realistic, but let me break it down a bit. The first step in the schedule is getting the license application ready to submit to the NRC. That will take between now and 2008, and as I said, I'm 100 percent sure we will meet that date. The next step is for the NRC to grant the construction authorization. According to our schedule, we've allocated three years for that authorization, the duration mandated by the Nuclear Waste Policy Act. But that act also allows the NRC to take a fourth year if it notifies Congress.

Another unknown is how long it will take to adjudicate all the various lawsuits that will probably be filed challenging the au-

thorization. My best guess is perhaps another three years in addition to the NRC proceedings. Assuming adequate funding and that we get the construction authorization, the amount of time it takes to build the facilities to open the repository is pretty well understood, and I think that we have that schedule down. In terms of where the uncertainty is in that "best achievable" schedule, it's primarily in access to the Nuclear Waste Fund [NWF] and in the time between when we submit the license application and the time we can proceed with construction. We allocated three years under a best-achievable scenario, but I think it could be up to seven years.

*Have you begun identifying existing gaps in the Yucca Mountain Project that need to be fixed by the time the DOE submits the license application? If so, could you talk about some of them and the steps you plan to take to close them?*

For what we need in the near term to submit the license application, I think there are very few gaps. The key is how the DOE manages this program—the kind of oversight that we give our contractors, and the involvement level of DOE senior manage-

ment in the design and licensing decisions. We've already put in place a number of processes that have substantially changed how we manage the project.

The broader, longer-term issues involve the skills and culture that are needed for the DOE to be both an NRC licensee and a repository operator. Regarding the skills issues, one of the things that will happen by the time I leave as head of this project is that we will have a top-notch federal senior management team in place that has a good understanding of a nuclear culture. The people

processes in place as we go forward.

*How about a national spent fuel transportation plan that addresses state, local, and tribal concerns?*

The transportation area has been the "poor sister" in the program for quite a while. It's always been the place where people trimming the budget say, "We'll take the money out of transportation because it's so far into the future." But we need to be moving aggressively on transportation—on the Nevada rail line as well

as the national transportation plan. Regarding the tribes, there is a substantial number of tribal government entities involved in and affected by transportation. For example, we are in discussions right now with

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on that team will have experienced it directly by visiting nuclear power plants or by being a nuclear executive like me, coming to the DOE after working in the industry. The building of this culture is a very important piece of the Yucca Mountain Project.

We're also being specific in setting out the behavioral expectations for the culture that we're trying to establish. In fact, for fiscal year 2007, we've put in a new set of culture-related behaviors for the organization. These behaviors are focused on safety, integrity, accountability, quality, teamwork, and continuous improvement.

On the technical side, we need to hire and build upon our engineering skills base, our managerial skills base, and our operations skills base. I'm going to be using people who have industry experience to do that in various ways. For some it might be as coaches and mentors, and for others we might hire them directly into the workforce. I'm establishing a "human capital management plan" to address this issue and to build the capabilities of this organization over the next three to five years so that we can operate the repository successfully.

*Regarding human capital, are you confident that the DOE will be able to hire enough people to design, license, build, and safely operate the repository?*

We're going to start recruiting and training employees aggressively over the next two years, and I'm confident the DOE will continue with it after I'm gone. In terms of the larger numbers that we'll need to operate the repository, that's down the road. Our first challenge is to get the license application in, get it docketed, and defend it. That's where our focus is right now. The longer-term issue of building the nuclear operations capability is something that I'm working on, and I'll put the right people and

the Walker River Paiute Tribe regarding a study of a potential rail transportation route through their reservation. We are treating them as we would any sovereign government. We're interacting with them to make sure they understand what we want to do

and to give them an opportunity to influence our planning, just as we do at the state and county levels. The DOE has been criticized in the past, and appropriately so, for not being further along in discussions, route planning, and working with the states, counties, and tribes on this. I intend to turn that around.

*What are your feelings on whether Congress will permanently withdraw lands needed for operation of the repository, especially in light of the Department of the Interior's decision last September that in part denied use of public lands to transport spent fuel to a proposed interim storage site in Utah?*

I don't think the Department of Interior's decision will have any impact whatsoever on Yucca Mountain and the land withdrawal decision on that. It's obvious that we want to get a decision on withdrawal as soon as we can. I would say that Congress will give us what we need to make the Yucca Mountain repository happen when they believe we're actually on a path to success, and that we've given them reason to have a high confidence level in our ability to succeed. That's what I'm trying to do here in my remaining two years on this

job—to reestablish Yucca Mountain's credibility on Capitol Hill and to give our supporters a sense of optimism.

*How do you plan to address the impasse of growing government liability associated with unmet contractual obligations to move spent nuclear fuel from plant sites?*

In terms of getting this issue off dead center, there are a couple of key issues. One is that no single solution is going to fit every utility. There are some utilities that have plants already decommissioned and in some cases torn down. They have spent fuel sitting on a pad and they want a certain solution to that. There are others that are in the nuclear business for the long haul and may be willing to have a different type of settlement agreement that meets their needs. I believe there is a suite of solutions that needs to be implemented here.

There are currently more than 50 lawsuits still in play over this issue. Based on the lawsuits that have either been settled or adjudicated to date, the government has been held liable only for certain costs that the utility has incurred up until the date of the lawsuit. In other words, even when the courts adjudicate those lawsuits, they have absolutely no impact on settling future costs

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incurred by the utility. Even if somebody sues the government and wins, they have to go back with another lawsuit to recover costs they will incur in the future. What we're trying to encourage people to do is to have discussions with the government on a comprehensive settlement for their spent fuel situation. There are a couple of potential options that we might be able to follow to do that. It's going to take discussion and cooperation between the government and the utilities to see if we can make it happen.

*Would the DOE consider buying and taking responsibility for the spent fuel from decommissioned plants?*

There are certain things we can and cannot do within the existing law based on the Nuclear Waste Policy Act. I can't give you a definitive "we could do this, but can't do that." What I can say is that we are certainly



willing to talk with people about those options to see if we could come to some mutually agreeable resolution.

*What is your feeling on whether Congress will allow the DOE to have access to the NWF to ensure adequate funding for the repository?*

I believe that if Congress has confidence that this program is on the road to success, they will give us access to the NWF in a way that makes sense both to them and to us and that they would allow us to have the cash flows we need to execute this project on the schedule we've laid out.

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*Regarding the DOE's new design for waste packages to be delivered to Yucca Mountain, what about the spent fuel that utilities have already placed in canisters at on-site storage pads? Who will be responsible for the cost to move the spent fuel from the existing waste packages into the new storage systems—the DOE or the utilities themselves?*

This is a contractual issue between the DOE and the contract holder. We have

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## “If we get a final EPA standard that is similar to the draft, I have confidence that we will be able to meet it.”

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*Do you think Congress will eliminate the current statutory cap of 70 000 metric tons on disposal capacity at Yucca Mountain?*

I can't predict that. What I can tell you is that the Nuclear Waste Policy Act requires that the energy secretary report to Congress no later than 2009 on the need for a second repository. If the cap is not lifted, we absolutely and positively will need a second repository just for the nuclear plants that are currently operating with their extended licenses. I will deliver a report to Congress that says the same during my tenure in this position.

*Can you comment on the possibility of centralized storage sites across the country in addition to or as possible replacements for Yucca Mountain?*

I would say that the idea of potential multiple interim storage facilities across the country may not make sense for a couple of reasons. One is that essentially we already have that now. Every plant that has spent fuel sitting in interim facilities is an interim storage site. Creating others doesn't make sense from a practicality standpoint. Number two, it's certainly a much more expensive and complicated solution than taking everything to one place and managing it there. It doesn't make sense to me, and I know it doesn't make sense to a number of people on Capitol Hill.

*Are you confident that the DOE will be able to certify that the repository will be able to meet the parameters of the final standard from the Environmental Protection Agency (EPA), due by the end of 2006?*

I've seen the draft of the final standard proposed by the EPA, and the DOE has provided comments on it to the EPA. If we get

ideas for an equitable solution to this dilemma that we're going to be sharing and discussing with the utilities after the first of the year in 2007. I can say that in the design of Yucca Mountain's surface facilities, we

are including a facility to open those canisters and repackage the fuel bundles into the TADs [Transportation Aging Disposal canisters] that we are designing. We are not going to force people to open canisters they have sitting on a pad after their plant has been closed down. I believe we can come up with an equitable and mutually agreeable solution to this issue.

*What will happen to the Yucca Mountain Project when you leave your job in 2008?*

I've had discussions on this issue with the DOE senior management team. We are in agreement that it is very important to the future success of this program that we have in place a high-performance management team to make sure the changes we're putting in place now involving processes, skills, and culture are maintained and continue to be improved upon after I leave. In some cases, I'm going to need the industry's help to do that in terms of providing us with people who have the right skill sets, the right experience, and the right leadership capabilities to help us make this program successful for the long term. I'll be talking more with stakeholders about how we can do that. This is a major issue where the industry can help to make sure this program is successful in the long term.

*Did you come into your job with the mindset that it's two years and then you're moving on, or would you stay on the job if the new president in 2008 asks you not to leave?*

This is a politically appointed job. I serve at the pleasure of the president, and at the end of the administration, I resign. If the new president asked me to stay, I would have to seriously consider it at that time. ■