

# What's News at Yucca Mountain



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## Talks with NRC welcome

**Who knew?** Nevada's delegation in Washington has never conducted a dialogue with the Nuclear Regulatory Commission, the federal agency that oversees and regulates power plants, licensing and safety. Such talks should have started long ago.

Pronouncements in which the Energy Department and other administration officials say that Nevada will take the nation's spent nuclear material and store it, while Nevada officials say we won't is not a dialogue. It's a standoff. Failure of the appropriate officials at the NRC to conduct high-level talks with the Nevada congressional delegation has produced nothing, except delay and bitterness.

If pragmatic, scientific provisions for disposal of nuclear waste had been made when the nuclear power industry began gearing up in the middle of the 20th century, Yucca Mountain might never have become such a line in the sand.

There would have been no stonewalling to hold back progress on a repository that threatens to endanger the health of Nevadans. There would have been no allegations of fraud regarding substandard plans for the dump. There

would have been no reason to fear possible spills as the federal government ships waste by rail through Northern Nevada.

Further, if federal officials had been talking instead of forcing the repository on Nevada, some of the rancor of the past decade could have been avoided. Further, a new generation of cheaper, safer, more efficient technology might have been developed by now. The nation might have developed a reasonable plan for getting rid of the radioactive waste.

Dialogue with the NRC is a welcome new strategy. At the end of 2005, plants were generating electricity in 31 states, excluding Nevada. About 50,000 tons of nuclear waste were waiting at the sites for storage, and officials are eager to ship the waste out of their states, mostly in the East, and ship it to the dump site north of Las Vegas. Nevada's lawmakers deserve credit for holding their ground and refusing to take this treatment lying down.

Regardless of what Nevada lawmakers say or do, it is impossible to say if the administration will stop trying to push this project through, but a dialogue that focuses on facts and aims to discover solutions for storing waste could be productive. Source: Reno Gazette Journal



Inside the tunnel at Yucca Mountain

## Nuclear waste on our rails

Trains carrying up to 4,500 casks of high-level nuclear waste could roll through downtown Reno and Sparks every week for 24 years under the latest strategy by the U.S. Department of Energy to build a railroad line to Yucca Mountain, according to Nevada officials.

As many as 4,500 or 5,000 casks -- half of all the casks to be shipped by rail -- are expected to go through Reno and Sparks if the Mina line is built and the DOE moves forward on using a "suite of routes" instead of only one rail line across the country, said Bob Halstead, the State of Nevada's transportation consultant for Yucca Mountain.

Using the southern Burlington Northern Santa Fe Railway route as well as the central Union Pacific route would provide greater security and operating flexibility in routing rail shipments from the East Coast, he said. The Santa Fe route would come up from the Central Valley in California and then over Donner Pass and into Reno on the UP line. Other shipments would come across the UP line from Utah.

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## Nuclear waste (continued)

At the earliest, DOE officials expect rail construction to begin in 2012. The repository would be open to start taking in 77,000 metric tons of spent nuclear fuel in 2017 in the energy department's best-case scenario, while state officials say 2025 is more likely, if Yucca Mountain is approved at all.

From the Union Pacific line, the Mina route would start with an existing rail line at Hazen, east of Fernley. Then, this route would head south to Hawthorne, where a new line would follow an abandoned railroad route to the nuclear waste repository at Yucca Mountain in Southern Nevada.

The study is limited to the effects of building the new line and continued evaluation of the Caliente Route, which has been the favored route, starting near the state's eastern border.

The suite of routes has been proposed in discussions by members of the DOE's Transportation External Coordinating Working Group and outlined in a series of DOE e-mails quoted in an unpublished report by Halstead.

Allen Benson, spokesman for DOE's Yucca Mountain repository project, said he was unaware of the "suite of routes." But he said there's no need to worry. DOE has been transporting casks containing nuclear waste around the country for 50 years without incident, including 5,000 shipments to a waste isolation pilot plant in Carlsbad, N.M., he said.

"Nuclear material is already being shipped around this country and has been since the dawn of the atomic age," Benson said. No harmful release of radiation has occurred in this country in 2,700 shipments over 1.6 million miles, the department boasts.

While DOE intends to hold another hearing in Reno when the draft Mina report is issued this fall, Benson said there are no specific plans to study the impacts of routing more nuclear waste by rail through Reno and Sparks.

That's because transportation already was covered in an initial environmental-impact statement issued several years ago, he said.

And, he said, Reno is no different than any other city, such as Kansas City, that will be on the route.

### Mina vs. Caliente

The new look at the Mina route was prompted by the Walker River Paiute Tribe. Last June, the tribe notified DOE that it had withdrawn its objection, filed in 1991, over an environmental study to ship nuclear waste across its reservation through central Nevada.



The DOE estimates the Mina route would require only 240 miles of new rail and would cross fewer mountain passes than the Caliente Route, which would require 318 miles of new rail.

The Mina route is estimated to cost \$1.6 billion versus \$2 billion for Caliente.

Both the Mina and the Caliente routes would involve few, if any, rail shipments through Las Vegas. Clark County has loudly opposed shipments and DOE officials would likely "pay a little more attention to what they're saying," Loux said.

Earlier this year, the Energy Department asked for legislation to withdraw public lands at Yucca Mountain

and around it from public use, a move required as part of its licensing. It also wants to lift a 77,000-ton limit on the amount of nuclear waste to be stored there.

No matter the setbacks, the nuclear energy industry will wait, Halstead said. "I was just at a meeting with 2,200 (industry) people. Only 25 of us were dubious about the future of the nuclear industry and dubious about the future of Yucca Mountain," Halstead said. Sooner or later, "from a common sense standpoint, these guys are going to get a license," Halstead said.

Benson said the environmental study should be complete before the energy department submits a license application to the Nuclear Regulatory Commission by June 2008 as planned. He said the license could take three to four years to get. Source: Reno Gazette Journal.



## Nevada lawmakers promise new fight against Yucca Mtn.

Nevada lawmakers met for a strategy session to combat Yucca Mountain, emerging to promise more setbacks for the nuclear waste dump.

With Democrats in control of Congress and Sen. Harry Reid as majority leader, the waste dump project could face crippling blows, they told reporters after their meeting in Las Vegas.

"The next two years may very well be the death knell to sending nuclear waste to Yucca Mountain," said Rep. Shelley Berkley, D-Nev.

Berkley is planning to write to fellow House Democrats to enlist support against the project the Energy Department is trying to build 90 miles northwest of Las Vegas. Some 70,000 tons of toxic waste would be stored there. Rep. Jon Porter, R-Nev., is planning a letter to House Republicans.

Reid is aiming to cut annual appropriations, which have ranged from \$450 million to \$550 million in recent years.

The lawmakers plan to meet with the Nuclear Regulatory Commission, which must issue a license before the nation's nuclear waste could be stored at the dump site.

Reid and Sen. John Ensign, R-Nev., said they won't allow pro-Yucca legislation to reach the Senate floor. The Energy Department wants certain legislative fixes, and Energy Committee Chairman Pete Domenici, R-N.M., has introduced legislation in the past to make such changes

Domenici will lose his chairmanship next year, but Sen. Larry Craig, R-Idaho, said recently he plans to reintroduce the bill.

"We have every legislative tool at our disposal to defeat this. We will use every legislative tool, and I think they have virtually no chance" of moving pro-Yucca legislation through the Senate, Ensign said. Source: Associated Press

## State seeks barring storage above the ground

The state of Nevada petitioned the U.S. Nuclear Regulatory Commission to rule out the U.S. Department of Energy's plans to use the Yucca Mountain site in Nevada for indefinite surface storage of thousands of tons of highly radioactive nuclear waste.

DOE's plan to store up to 21,000 tons of nuclear waste at the site is subject to NRC licensing.

The proposed tonnage would be seven times the planned annual intake of the proposed Yucca Mountain underground repository, according to Bob Loux, executive director of the Nevada Agency for Nuclear Projects.

The Nuclear Waste Policy Act specifically prohibits a large interim storage site in Nevada as long as the state is the proposed location of a repository. DOE claims the storage facility, which it calls an "aging facility" because it will hold spent fuel until it is cool enough to allow it to be moved underground, is integral to the efficient operation of the proposed repository.

But Loux said the proposed surface storage could last for decades.

"Planned storage of seven times the annual emplacement rate at Yucca Mountain is nothing more than an unlawful interim storage site in embarrassingly thin disguise," Loux said. "Decoupling waste receipt from emplacement is proof of the department's intent to establish a massive storage site at Yucca Mountain."

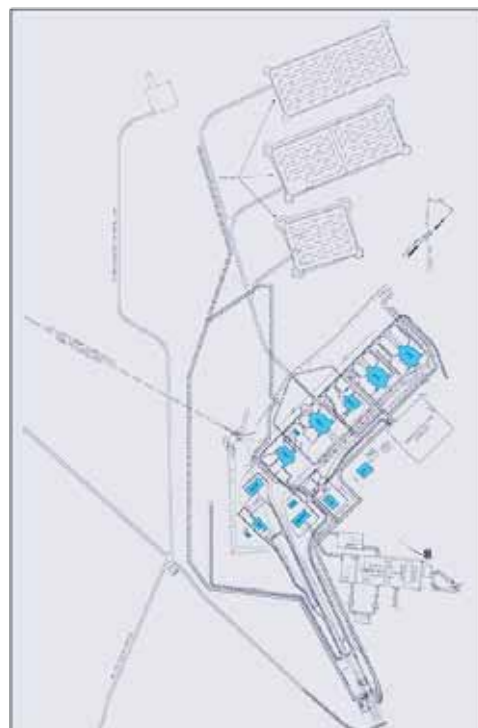
This would increase transport frequency and the department's haste for rail and highway waste shipments across the nation to Yucca Mountain, only adding to already risky waste transportation."

Loux added, "I can see the need for some limited storage capacity at a site to support operations, and that is why, in this petition, we are proposing that the commission's licensing rule limit surface storage at the site to a time period of no more than one year. The law clearly says that a repository site is for waste disposal, not surface storage. The waste is currently aging at the reactors where it

was generated, and that is what the law intended."

Loux also expressed concern about the NRC process, saying, "The NRC is supposed to publish a petition in the Federal Register and seek public comment on whether a rule-making proceeding should be initiated."

DOE plans to submit a Yucca Mountain license application for a nuclear waste repository to the commission in June 2008, six years after Congress authorized the submission, which by law was supposed to be done 90 days before the congressional vote. Source: Las Vegas Review Journal



### Current Repository surface design

- Up to 6 buildings,
- Dry handling for canisters,
- Wet handling (limited) for individual fuel assemblies or Dual Purpose Casks,
- Phased construction,
- Dry cask aging

## Nuclear Power Makes Comeback

OCALE - There hasn't been a license issued for the construction of a nuclear power plant in the U.S. in nearly three decades, as the industry has stagnated since the accident at Three Mile Island in 1979 - the worst in the country's history. But after years of dormancy, nuclear power may be on the verge of a renaissance. Energy companies and consortiums have announced their intentions to apply for licenses to build about 30 reactors throughout the country. "There is no question that this is the highest level of interest that there has been in 25 years or so," said Roger Hannah, spokesman for the Nuclear Regulatory Commission's regional office in Atlanta.

And part of that rebirth could happen in Levy County, Florida where Progress Energy has selected a 3,000-acre tract as a site for a possible nuclear power plant. However, company officials say that a decision to build is more than a year away. So what's sparked the renewed interest in nuclear power? Proponents say the unstable cost of natural gas, the public's desire to decrease dependence on foreign energy sources, as well as increased concerns about global warming have turned the tide. Unlike fossil fuels, nuclear energy does not emit greenhouse gases such as carbon dioxide. In addition, nuclear energy experts say the plants are cheaper to operate and maintain.

"It's being driven by economics but it's also being driven by environmental issues," said Mitch Singer, spokesman for the Nuclear Energy Institute, the nuclear energy industry's policy organization. "It's the largest source of emission-free electricity in the country." Singer said Florida is ripe for the building of new power plants since the state's population is expected to grow by 30 percent by 2030 while its demand for electricity is forecast to increase by 76 percent.

Buddy Eller, Florida communications manager for Progress Energy, said that a switch to nuclear is the best option to possibly lower customers' energy bills in the future, about half of which are

currently related to rising fuel costs. "[Nuclear] is a domestic fuel that's very stable over the long term," Eller said.

But Michele Boyd, legislative director for the energy program of the advocacy group Public Citizen, said that the push for the building of new nuclear reactors should really be tied to the passage of



the 2005 Energy Bill, which included billions of dollars in "cradle-to-grave" subsidies and tax breaks to promote the building of nuclear reactors.

However, Boyd said that she'll believe in a full-scale nuclear power resurgence when she sees it. While a number of utilities have announced their intention to build plants, Boyd said that applications for only four nuclear reactors have been sent in so far to the NRC. The plants are too costly to construct and the public sentiment won't be there if and when companies decide to build, she said.

"I'm confident we're not looking at a renaissance," Boyd said. "It's a mammoth expense; there are major, major safety and security concerns." Among those concerns, Boyd said, are

that power plants remain a vulnerable target for terrorists more than five years since the attacks of Sept. 11, 2001. Also, she said radioactive waste is an ever-present danger, as storage mechanisms for the waste aren't sufficient.

Boyd said that by making early announcements, utility companies such as Progress are putting out feelers to find out how much opposition they would receive if they decide to build.

"Progress is definitely testing the waters to see what kind of reaction they are going to get," Boyd said.

Singer said public concerns about possible accidents such as those that occurred at Three Mile Island and Chernobyl are unfounded.

"Those people who have safety concerns are just not knowledgeable about how a nuclear power plant works," Singer said. "They are operating more safely than they ever have."

Dr. Alireza Haghghat, a professor and chairman of the University of Florida Department of Nuclear and Radiological Engineering, said that there are really only three viable choices to generate electricity - natural gas, coal and nuclear. He said that the price of natural gas is too unstable and coal emits too many greenhouse gases, making nuclear the only viable option. Renewables won't be ready soon enough to meet the growing demand for electricity, he said.

"If you think of it in a logical manner, then nuclear looks good," Haghghat said.

Haghghat said that concerns about the storage of waste are baseless. He estimated that the radioactive waste from all of the 104 nuclear reactors in operation in the U.S. would be enough to fill up one football field six feet high.

If governmental efforts to step up reprocessing take hold, Haghghat said, "it would only take up an end zone."

Plus, Haghghat said the nuclear industry has made significant strides to prevent possible accidents since Three Mile

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## Nuclear Power... (continued)

Island."The industry has improved significantly since [Three Mile Island] because it helped them become more aware of the issues and less arrogant," he said. Singer said that the NEI believes there is bipartisan support for nuclear power and that public opinion polls show that people want an alternative to foreign energy sources.

"I think it's the economics, the environmental issues, the political support and the public opinion support," Singer said. "When you put that all together, it's a pretty strong arsenal." Boyd said that Public Citizen has already brought forth several environmental and safety concerns for proposed reactors in Mississippi and Illinois in hearings before the NRC. If Progress does decide to file for a license to build in Levy County, she said her organization would likely get involved there as well. "We'd certainly look at it," Boyd said. Source: Ocala Star Banner



## China Selects Westinghouse AP1000 Nuclear Power Technology

Westinghouse Electric Company and its consortium partner, The Shaw Group, Inc., (NYSE: SGR) thanked China's State Nuclear Power Technology Company (SNPTC) for selecting the Westinghouse AP1000 as the technology basis for four new nuclear power plants to be constructed at the Sanmen and Yangjiang sites.

"Westinghouse is certainly pleased that China has selected the AP1000, the very same advanced plant design that is the technology of choice for most of the new plant programs announced to date in the United States," said Steve Tritch, Westinghouse President and CEO. "We now look forward to working with our Chinese customer to negotiate final contract details so that we can formally implement this forward-looking new build program."

Mr. Tritch also said that Westinghouse, a group company of Toshiba Corporation, will work with SNPTC to forge a long-term relationship that will be in the best interests of all parties, including the citizens and governments of the Peoples Republic of China and the United States.

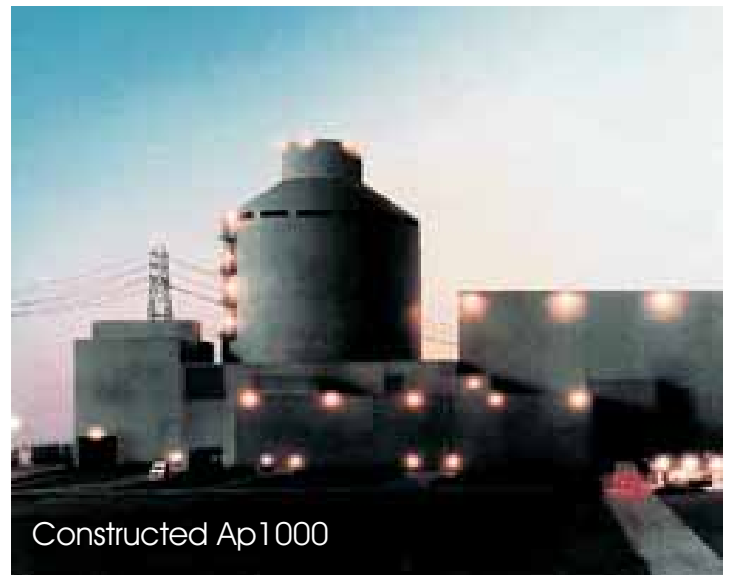
Westinghouse, with the world's largest installed base of operating nuclear power plants, said the selection of the AP1000 would create or sustain 5,000 well-paying design, engineering and manufacturing jobs throughout the United States. These jobs will help to load Westinghouse design and manufacturing facilities in Pennsylvania, New England, South Carolina and Utah.

Additional jobs will be created at U.S.-based suppliers in at least 20 states, including at major architectural, design

and construction organizations. Included are projected jobs in Massachusetts, New Jersey, North Carolina, and Louisiana for Shaw.

"This is truly a win-win for China and the United States," Mr. Tritch continued. "China benefits because it will move closer to its goal of energy independence through deployment of the AP1000 technology, which is in our view the safest and most efficient nuclear power plant now available in the worldwide marketplace. The United States benefits through both job creation and the multi-billion dollar export of products, technology and services."

Mr. Tritch also said the benefits are long-term in nature. "Approximately one-half



of the scope for these first four plants will be source from within China," he said. "Over time, though, as Westinghouse wins additional contracts for new plant work in China, additional scope will be source in-country. However, Westinghouse, our U.S. supplier base and our consortium partners will continue to benefit much as we do now in the Republic of Korea, where recent new plant awards from that country's maturing industry still provide about \$100 million per plant in U.S. scope."

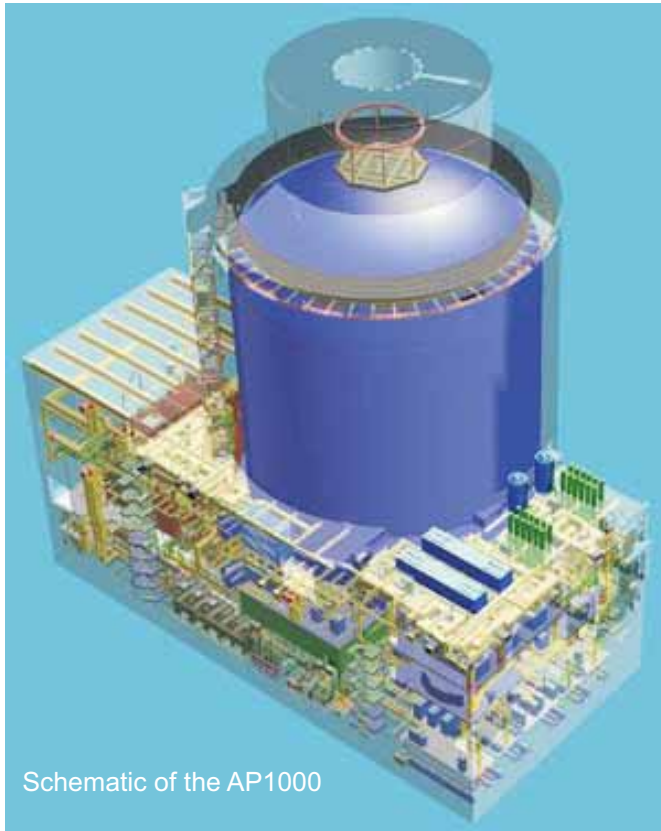
The selection of Westinghouse to supply

## China Selects ... (continued)

new nuclear plants in China is the most recent in a series of positive announcements regarding the AP1000 and new construction. Previously, the AP1000 has been identified as the technology of choice for no less than 12 new projected plants in the United States.

Westinghouse believes the Ap1000 is ideally suited for the worldwide nuclear power marketplace.

### THE AP1000



Schematic of the AP1000

The AP1000 is an advanced 1117 to 1154 MWe nuclear power plant that uses the forces of nature and simplicity of design to enhance plant safety and operations and reduce construction costs.

The AP1000 utilizes modularization technique for construction, which allows many construction activities to proceed in parallel. This technique reduces the plant construction calendar time, which saves the IDC (Interest During Construction) cost and reduces the risks associated with plant financing. The

AP1000 has a site construction schedule of 36 months from first concrete to fuel loading.

### LICENSING

On September 13, 2004 the United States Nuclear Regulatory Commission (U.S. NRC) granted a Final Design Approval (FDA) to Westinghouse for the AP1000 advanced reactor design. The approval is good for five years. Source:

Source:  
Westinghousenuclear.com  
and pnewswire.com

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