EUREKA COUNTY YUCCA MOUNTAIN INFORMATION OFFICE

Nuclear Waste Update

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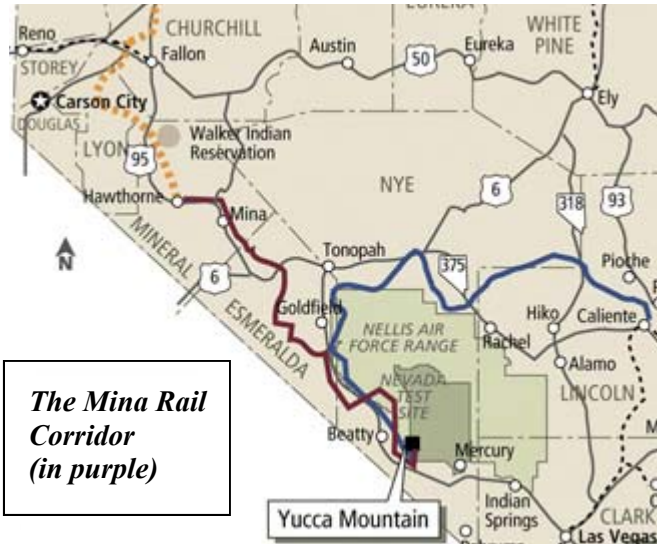
Tribe Withdraws Permission to use Mina Route for Waste Transportation

The Walker River Paiute Tribe withdrew its permission to ship nuclear waste through its reservation, effectively blocking the DOE from selecting the Mina rail corridor as a preferred waste transportation route to Yucca Mountain.

The Mina corridor, a 209-mile north/south line across the reservation lands of the Walker River Paiutes (see map) in Mineral County, was considered a cheaper and faster alternative to the Caliente Corridor.



The Mina Rail Corridor (in purple)

DOE had considered the Mina route over a decade ago, but was forced to drop plans for further study after being informed by the tribe that it would not allow high-level radioactive waste to be shipped through the reservation. The tribal council reversed that decision last year, prompting the DOE to reopen consideration of the route. The Energy Department announced it would expand the scope of the Nevada rail draft environmental impact statement (EIS), still being written, to include consideration of the Mina route. Public scoping hearings were held last fall.

However, in April, the Walker River Paiute tribal council passed a resolution removing the tribe from the EIS process. *(Continued on page 2)*

Federal Judge Rules DOE Cannot Use Nevada Water for Yucca Drilling

State continues to struggle with Energy Department over water usage at site

On August 31, a federal judge denied the Department of Energy's request for a preliminary injunction to continue using Nevada water for bore hole drilling at Yucca Mountain.

DOE had sought to block State Water Engineer Tracy Taylor's June 1 cease-and-desist order for the federal agency to stop using water at the site.

In a strongly-worded decision focusing on federal "credibility and good faith," U.S. District Judge Roger Hunt said the Department of Energy could not ignore state limitations and continue using water for drilling test holes near the repository site.

DOE has said it needs eight million gallons of Nevada's water to aid a drilling project for extracting rock samples. The data will be used as part of its license application to the Nuclear Regulatory Commission to build and run the waste repository.

However, State officials contend the drilling project is part of "site characterization,"—a step crucial to assessing whether radioactive waste can be safely stored at Yucca—but which was supposed to have been completed before the site was recommended to Congress in 2002.

"DOE attempts to deny that this is further site characterization," said the federal judge. "However, its own documents contradict that argument."

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"After considering the information we had gathered to date and discussions with our membership, the tribal council made the decision not to continue with the Department of Energy's process," tribal Chairwoman Genia Williams said in a statement.

"The tribe will not allow nuclear waste to be transported on rail through our reservation," Williams said.

"The tribe will not allow nuclear waste to be transported on rail through our reservation."

— Genia Williams, Tribal Chairwoman

The tribal council had faced pressure from residents of the reservation and neighbors because of the danger of a potential leak from the nuclear waste shipments.

Allen Benson, an Energy Department and Yucca Mountain project spokesman, said the tribe's decision means the Mina corridor will be dropped from the department's choices of potential rail lines to Yucca Mountain. "Selecting Mina would appear to be academic at this time," he said.

DOE's attention is now refocused on the 319-mile Caliente rail corridor. However, DOE will include the Mina route in the impact statement expected to be released in October 2007.

Sources: Las Vegas Review Journal 4/18/07; AP 4/18/07

Outgoing NRC Commissioners Pessimistic About Yucca Mountain

Two outgoing U.S. Nuclear Regulatory Commission (NRC) members have voiced their concerns that the spent nuclear storage facility might never happen—and said that it may be time for the government to start considering other options.

However, both commissioners faulted political obstacles instead of scientific ones.

"We're not going to get any closer to Yucca under the current circumstances," said commissioner Jeffrey S. Merrifield. "It was a terrible mistake to saddle the Department of Energy with the Yucca Mountain project."

Commissioner Edward McGaffigan Jr., who died in September of cancer, elaborated earlier this year. "Bad law, bad regulatory policy, bad science policy, bad personnel policy and bad budget policy" left him believing that Yucca Mountain will never be home to the disposal of high-level radioactive waste and spent fuel.

"It was a terrible mistake to saddle the Department of Energy with the Yucca Mountain project."

— NRC Commissioner Jeffrey S. Merrifield

"There is no chance Yucca can go forward under current statute," McGaffigan told the *Las Vegas Sun* in February. "I would go back to the beginning. When you go out of process it's a problem, it's a huge political problem. If a process is done fairly, I think you have a shot."

Both Merrifield and McGaffigan said the Yucca project might have gone more smoothly had Congress done things differently when selecting a state to host the dump. Nevada was designated to host the site by amendments to the 1987 Nuclear Waste Policy Act, effectively without the state's consent.

McGaffigan

McGaffigan said a better process for repository selection might be open competition, such as the kind used in Sweden and now being considered in the Great Britain, where communities are invited to apply for hosting a repository in exchange for various incentives.

Merrifield

If the DOE were to start over, McGaffigan suggested that the agency rewrite the Nuclear Waste Policy Act, create a bipartisan panel of experts to examine the act, and find its own long-term project manager to replace DOE's assistant secretary now in charge of Yucca.

Both outgoing commissioners also agreed that, until Yucca or a comparable long-term dump opens, high-level waste could be safely stored in above-ground casks at operating nuclear reactors.

The Nuclear Regulatory Commission is a federal agency that regulates all of the nation's nuclear facilities, with the exception of the nuclear weapons complex. The Yucca Mountain site must be granted a license by NRC before DOE can move forward with the construction and operation of the proposed facility.

Sources: Nuclear Waste News 3/26/07 ; Las Vegas Sun 2/7/07

Tracking activity at Union Pacific rail yard: behind the scenes in Kansas City

by Richard Moore, P.E.

Editor's note: *Richard Moore, P.E. is Eureka County's transportation impact advisor for the Yucca Mountain program. He represented the County at the Department of Energy's Transportation External Coordination Working Group meeting in Kansas City in July. The Working Group addresses transportation and emergency management policy issues for nuclear waste.*

A tour of the Union Pacific rail yard was part of the meeting. Moore describes the activities and functions in the Kansas City rail yards that he toured. Since DOE is committed to a "mostly rail" scenario for shipping nuclear waste to Yucca Mountain, these activities are part of the big picture for national rail transportation of nuclear waste from the east, south and Midwest to the proposed Yucca Mountain site in Nevada.

Kansas City is a major hub in the Union Pacific (UP) railroad system. From the east, rail lines come into Kansas City from Chicago, St. Louis, Memphis, and New Orleans. Rail lines from Kansas City to the west connect to Omaha, Denver, Dallas, Ft. Worth and El Paso. Kansas City is also an interconnection point for other major railroads with the UP system, such as the Burlington Northern and the CSX. The main track through Kansas City was built in the 1860's and has low clearances and sharp turns.

Several major UP classification yards are located in Kansas City. A **classification yard** is a place where railcars are switched from one train to another. When a train arrives, railcars are sorted to make up new trains based upon the destination of the railcars. A "switch list" is created with the sequence of cars in the train, information about the type of each railcar, its load, and its destination. Trains are broken down into individual cars, and then reassembled into new trains based upon their destination.

A classification yard has multiple parallel tracks branching from a single, central track. Each parallel track is designated for railcars with a particular destination. There are two basic types of classification yards, "hump" yards and "flat track" yards. Whether pushing cars over a hump, or through switches in a flat yard, locomotives are usually operated remotely by a worker on the ground or in a control tower. By controlling the locomotive remotely, the operator is positioned at an optimum location to view the cars being uncoupled and sent through the switches.

Car approaching the hump in the Neff Yard, Kansas City
(Photos courtesy of Richard Moore)

The Neff Yard in Kansas City is a **hump yard** and the second busiest classification yard in the country. The yard consists of 18 arrival tracks, 40 classification tracks, and 12 departure tracks. There are also 10 "run through" tracks for trains that don't need to be sorted, such as unit coal trains or container trains, where all the cars in the train are going to a single destination. Around 5,000 cars per day pass through this yard. About 1,500 cars per day are classified or sorted, by passing over the hump.

In a hump yard, trains are pushed over a small hill, referred to as a hump (see photo above). When the train reaches the top of the hump, a railcar is manually uncoupled from the car behind it (see photo, next page). It then coasts down the hump to a series of switches. The switches are set to send the car to the track designated for its destination. The momentum of the railcar rolling down the hump provides the energy to couple the car to other cars already on the track. Much of this system is computer controlled. A scanner reads an identifying code on each car. This information is then used to determine which classification track the car should be switched to after it passes down the hump. The computer system automatically sets the switches to direct the

(Continued on page 4)

car to the appropriate track. The speed of the car as it coasts down the hump is measured. Brakes built into the tracks are applied to slow the car to the appropriate speed to allow it to pass safely through the switches to the classification track, yet maintain enough speed to couple with the car in front of it on the track. The speed of a car traveling down the hump is usually two to three miles per hour.

A worker removes the coupling pin between the two cars.

Railcars travel down a hump and through the various switches without any locomotive controlling them. Once they have passed the braking system built into the tracks, operators have very little or no control over the railcar. Therefore, cars carrying hazardous materials, such as spent nuclear fuel, are usually not allowed to be "humped," but rather must be switched in a flat yard under continuous control of a locomotive.

The 18th Street Yard in Kansas City is a "flat" yard. In a flat yard, railcars are pushed by a locomotive through the switches to its designated track, and coupled with the cars already on that track.

Switches are manually controlled, so a worker is assigned to inspect the switches to make sure they are set correctly for the approaching car.

The cars are usually uncoupled before they reach the other cars on the track, and are shoved by the locomotive with enough speed to reach the other cars and complete the coupling process. About 650 cars per day, or about five trains, are sorted in this yard.

Cars may be inspected in a classification yard. If defects are found, they are repaired in the yard if the defect would affect the safety and operation of a train. Cars with other defects, such as doors that won't latch properly, are "set out" from the train to be returned to the car owner (photo below).

The yellow tag means this car is to be returned to its owner for repairs.

DOE releases design requirements for nuclear transport canisters

The Department of Energy (DOE) is moving forward on its plan to use special TAD canisters to ship and store spent nuclear fuel at Yucca Mountain.

In June, the Energy Department released final design requirements for the canisters, and said it would invite vendors to begin submitting cask designs. DOE will also begin negotiating with nuclear utilities about amending their disposal contracts so they can use the canisters.

Transportation, aging, and disposal (TAD) canisters are part of DOE's plan to alter the surface design of the Yucca Mountain facility. First announced in October 2005, the canister approach would minimize handling of spent nuclear fuel at the repository by using the same canister from the time it leaves a nuclear power plant to the time it is placed in a waste-disposal package at Yucca. TAD canisters would eliminate the need for as many costly waste-handling facilities on the surface of the Yucca Mountain site.

Containing eight to nine tons of nuclear waste, each "one-size-fits-all" canister would be able to accommodate different types of fuel rod assemblies. Upon arrival at Yucca Mountain, most canisters would be placed directly into the underground repository, but some would have to be stored in reinforced containers on an above-ground "aging pad." The aging pads would serve to cool the spent fuel before storage, part of a "thermal loading" strategy by DOE.

However, in December, Nevada officials filed a petition with the Nuclear Regulatory Commission challenging this thermal loading strategy, saying that it would amount to interim storage of nuclear waste at the site. Interim storage of nuclear waste in Nevada was outlawed by Congress in 1987.

Sources: Nuclear Waste News 7/2/07; Las Vegas Review-Journal, 6/19/07

Nuclear News . . . In Brief

On August 30th, a railway tanker containing toxic chlorine gas accidentally rolled out of the Las Vegas Arden train yard and traveled through the urban heart of Clark County. . .

A utility company survey crew was the first to call 911 and alert local authorities. The tanker finally came to rest in North Las Vegas, 20 minutes later, after Union Pacific maintenance workers boarded the tanker, activated the hand brake and ended the threat of an accidental release of poisonous gas.

Local officials were outraged, demanding explanations for what went wrong at the train yard and why Union Pacific was not on point in informing local entities about the potential threat of the runaway chlorine gas tanker. The Federal Railroad Administration and the Public Utilities Commission of Nevada have begun an investigation.

(Las Vegas Review-Journal 8/30/07 and 8/31/07)

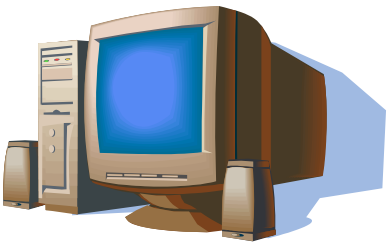
In response to concerns over the runaway tanker, Union Pacific issued three new safety measures on September 1st. . .

Union Pacific will place anchor cars at the north end of every track at the Arden train yard to prevent unattached cars from rolling out; all cars carrying hazardous materials will be secured before the locomotive hauling it is detached; and the company will conduct a thorough review of its emergency notification procedures.

(Las Vegas Review-Journal 9/1/07)

The computer program used by the Department of Energy for its Yucca Mountain license application is so complicated that no one outside DOE can possibly understand it, says the State of Nevada. . .

Nevada's Agency for Nuclear Projects has called on the Nuclear Regulatory Commission (NRC) to investigate the problem before DOE can submit its license application.



Assessing DOE information in the current system requires a collection of 752 computer processors and 30 master computer servers running on an older Windows 2000 system. "The model is so complicated and large…that it is fundamentally not capable of being checked by any third party, including the NRC staff," said Bob Loux, executive director of the Nuclear Projects Agency.

(Nuclear Waste News 4/23/07)

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In his 24-page order, the judge further noted: "The only argument the DOE makes is that because the site has been approved ... it has the authority to do whatever it wishes. It has failed to demonstrate the necessity of its voracious water demands."

In response to the ruling, State Engineer Tracy Taylor put DOE on notice to immediately stop using Nevada water at the site. However, the Department said that Taylor's original cease-and-desist order only pertained to phase two of the drilling project, and that it would continue to use water for the first phase, until its completion.

On Sept 10, Nevada attorneys filed a pair of motions in U.S. District Court asking a judge to compel DOE to stop using the state's water until the parties could reach an agreement on appropriate water usage.

Without access to millions of gallons of state-controlled water, the Energy Department's only option may be to truck in water over long distances, placing another burden on the project and starting another activity that state officials could block.

> ***"[DOE] has failed to demonstrate the necessity of its voracious water demands."***
>
> **— U.S. District Judge Roger Hunt**

For the most recent updates on this issue, please visit **www.yuccamountain.org/new.htm**.

Nuclear Waste Update

Eureka County Nuclear Waste Repository Program

The Eureka County Nuclear Waste Update is published by the Eureka County Yucca Mountain Information Office, P.O. Box 990, Eureka, NV 89316, (775) 237-5707. The purpose of the *Update* is to provide information to the public about issues related to the proposed nuclear waste repository at Yucca Mountain.

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For more information on the Yucca Mountain project, contact the county's Yucca Mountain Information Office: (775) 237-5707.

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UPDATE

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