

STATEMENT OF KENNETH A. COOK

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Before the
Senate Committee on Environment and Public WorksHearing:
Examination of the Licensing Process for the Yucca Mountain RepositoryWednesday, October 31, 2007, at 10 am
Submitted for the Record

Chairman Boxer, Ranking Member Inhofe, distinguished members of the Committee: Thank you for the opportunity to testify today on some of the crucial issues surrounding the licensing process for the proposed facility for long-term storage of lethal, long-lived nuclear waste at Yucca Mountain in Nevada. My name is Kenneth Cook and I am president of Environmental Working Group (EWG), a non-profit environmental research and advocacy organization that uses the power of information to protect public health and the environment. EWG has offices in Washington, DC and Oakland, California.

Since 2002, EWG has examined and assisted the public in understanding the transportation implications of nuclear waste routes that could be utilized to transport deadly radioactive material from around the United States, and through virtually every major city in the nation, to Yucca Mountain, should the proposed repository there become operational.

I want to emphasize three main points in my testimony today:

1. The American public's fundamental right to understand the full implications of thousands of potential shipments of extremely dangerous nuclear waste across this country should be central to the government's process for licensing Yucca Mountain, for operating any other repository for this material, and for all decisions to relicense existing reactors or build new ones. The federal government has not respected that right to know.
2. It makes no sense to generate enormous, additional amounts of deadly nuclear waste when we haven't figured out what to do with the tens of thousands of tons already on hand. Our government has ignored that common sense precaution.
3. The government is rushing to approve the license application for Yucca Mountain before rudimentary, life and death questions have been resolved about transportation, storage, and a truly protective radiation safety standard.

Let me start with a vivid illustration of my first point.

GOVERNMENT'S NUCLEAR WASTE ROUTE MAPS

California

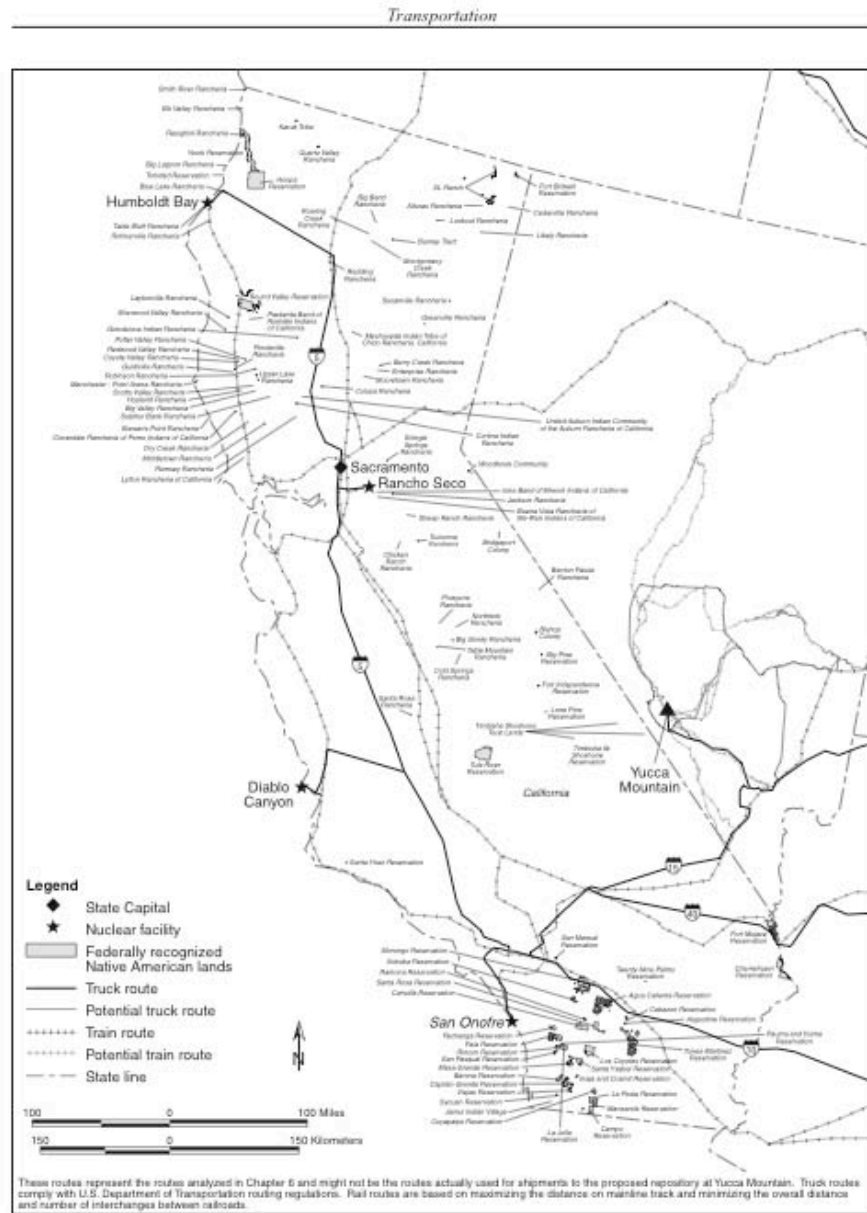


Figure J-34. Highway and rail routes used to analyze transportation impacts - California.

J-141

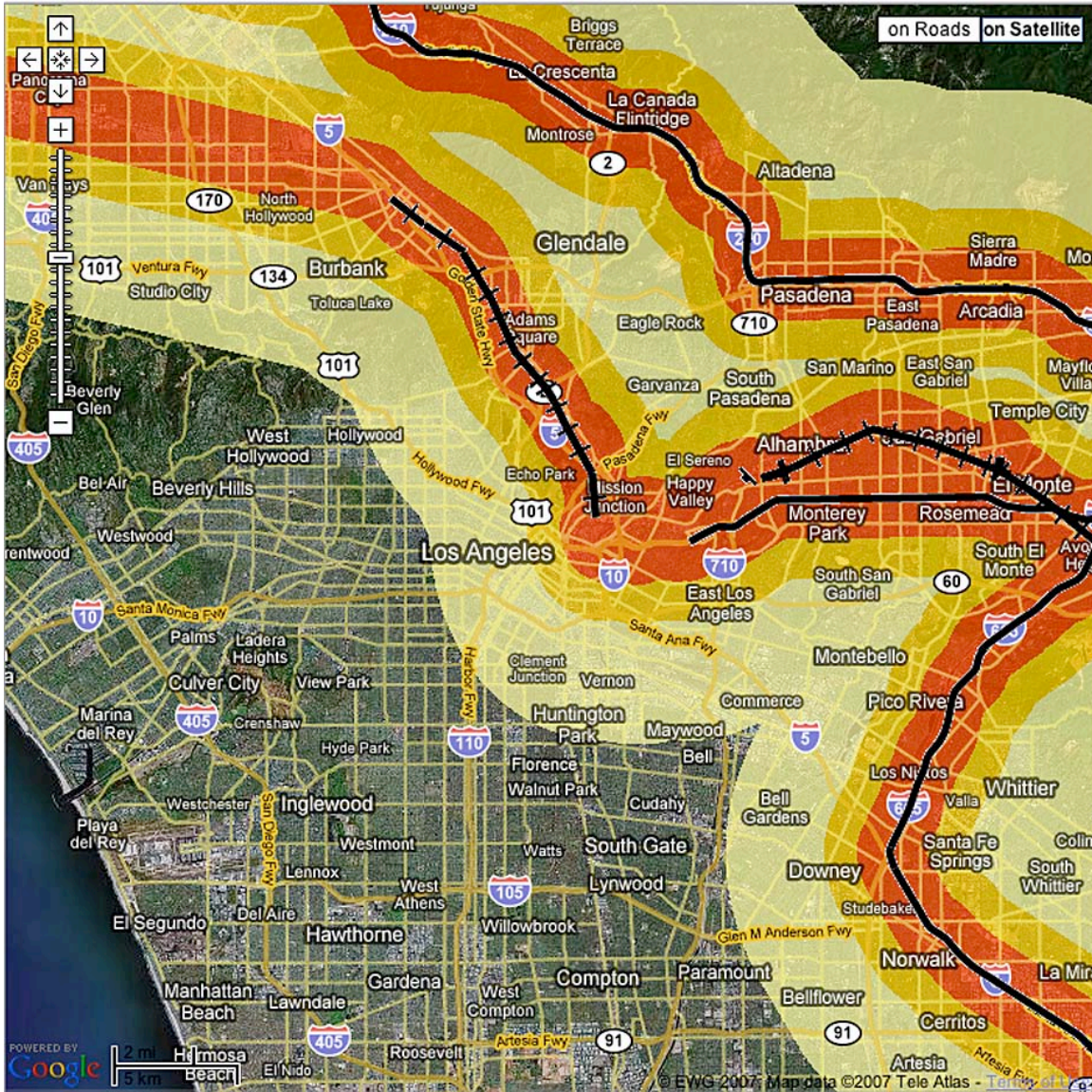
Official U.S. Government maps of prospective nuclear waste shipment routes to Yucca Mountain, Nevada.

http://archive.ewg.org/reports/NuclearWaste/pdf/eis_j_CA.pdf

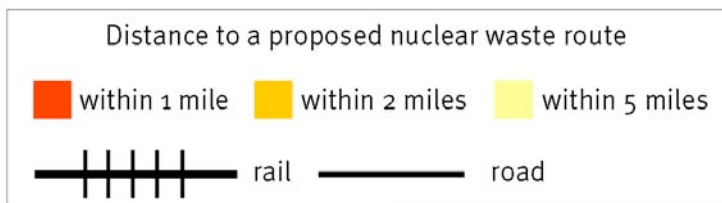


EWG NUCLEAR WASTE ROUTE MAP

Los Angeles, CA



Prospective nuclear waste shipment routes to Yucca Mountain, Nevada as depicted on Google Maps.
<http://archive.ewg.org/reports/nuclearwaste/mapresults.php?&lat=34.052659421375964&lng=118.24310302734375&z=10&type=on%20Satellite>



I apologize for the exceedingly poor quality of the first of those two maps, in particular to you, Chairman Boxer, since it depicts your home state of California. This is the official transportation map, buried in Appendix J of the Department of Energy's (DOE) Environmental Impact Statement (EIS) for the proposed Yucca Mountain nuclear waste repository. More cartoon than cartography, this illustration depicts only one city in our most populous state: the capital, Sacramento. It also shows the location of facilities from which lethal radioactive waste would be shipped to Yucca Mountain if it is ever made operational, along with a few highway designations and some unnamed rail lines.

You won't find San Francisco, Oakland, San Jose, Los Angeles, San Diego, Fresno, Bakersfield or any other major California cities on this map of nuclear waste routes to Yucca Mountain. But DOE's prospective routes for shipping deadly nuclear reactor waste go through or near every one of those cities, or the suburbs around them, and countless more communities in California.

If the people you represent did somehow find their way to Appendix J of the EIS for Yucca Mountain, Chairman Boxer, they wouldn't find any telling details about how the potential highway or rail routes might wend their way through the towns and cities and communities of your state.

The people of California probably wouldn't realize that 7.5 million them live within a mile of those routes, or that there are over 1,500 schools or 130 hospitals also within a mile of those routes in your state.

Now, *maybe*, Chairman Boxer, your constituents, knowing all that, would still decide that it makes sense to put lethal radioactive waste on California's highways and rail lines, right near their homes and through their communities, en route to Yucca Mountain. *Maybe* Californians would come to that decision knowing that plenty of waste would still remain to be dealt with at reactors in the state once Yucca Mountain is filled to its current statutory limit. *Maybe* residents of California would still conclude that reactors in the state, or in states to the north that might route waste through your state, should operate for an additional twenty years, generating more nuclear waste and more shipments for decades. *Maybe* the people of California would approve of new reactors being built, creating yet more waste at reactor sites, and on highways and railways, for generations to come.

Or maybe they wouldn't approve at all if they really knew what approval meant. Californians have a right to know the implications of shipping waste to Yucca Mountain, or of expanding nuclear power and waste production, *before* decisions are made for them.

The second map was made by Environmental Working Group, using Google Maps after we painstakingly overlaid the rail and highway routes from that very same set of maps in the Yucca Mountain EIS. We are in the process of making maps like this available online for all of the proposed shipment routes to Yucca Mountain. Here are some other examples, with additional EWG maps presented on the charts before you.

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GOVERNMENT'S NUCLEAR WASTE ROUTE MAPS

Oklahoma

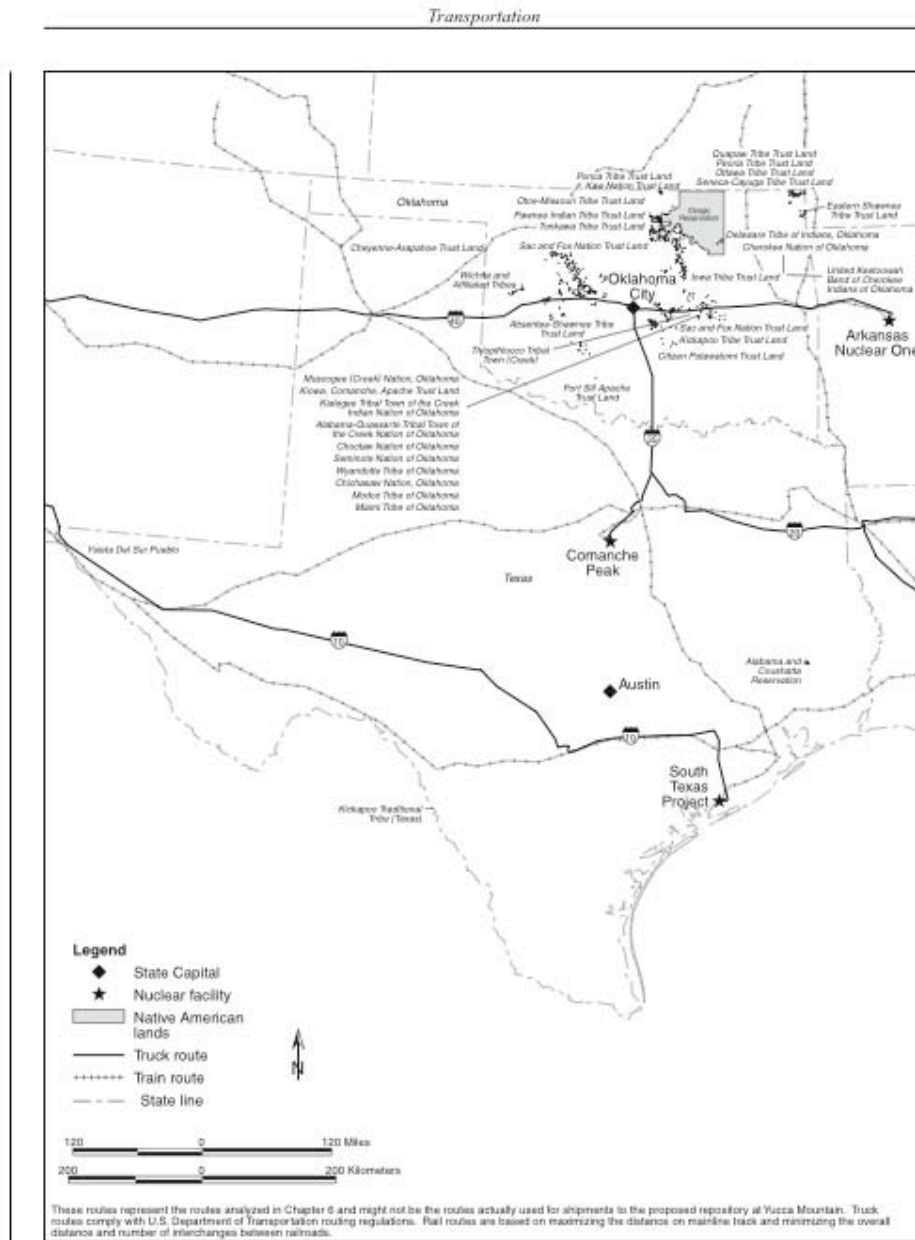
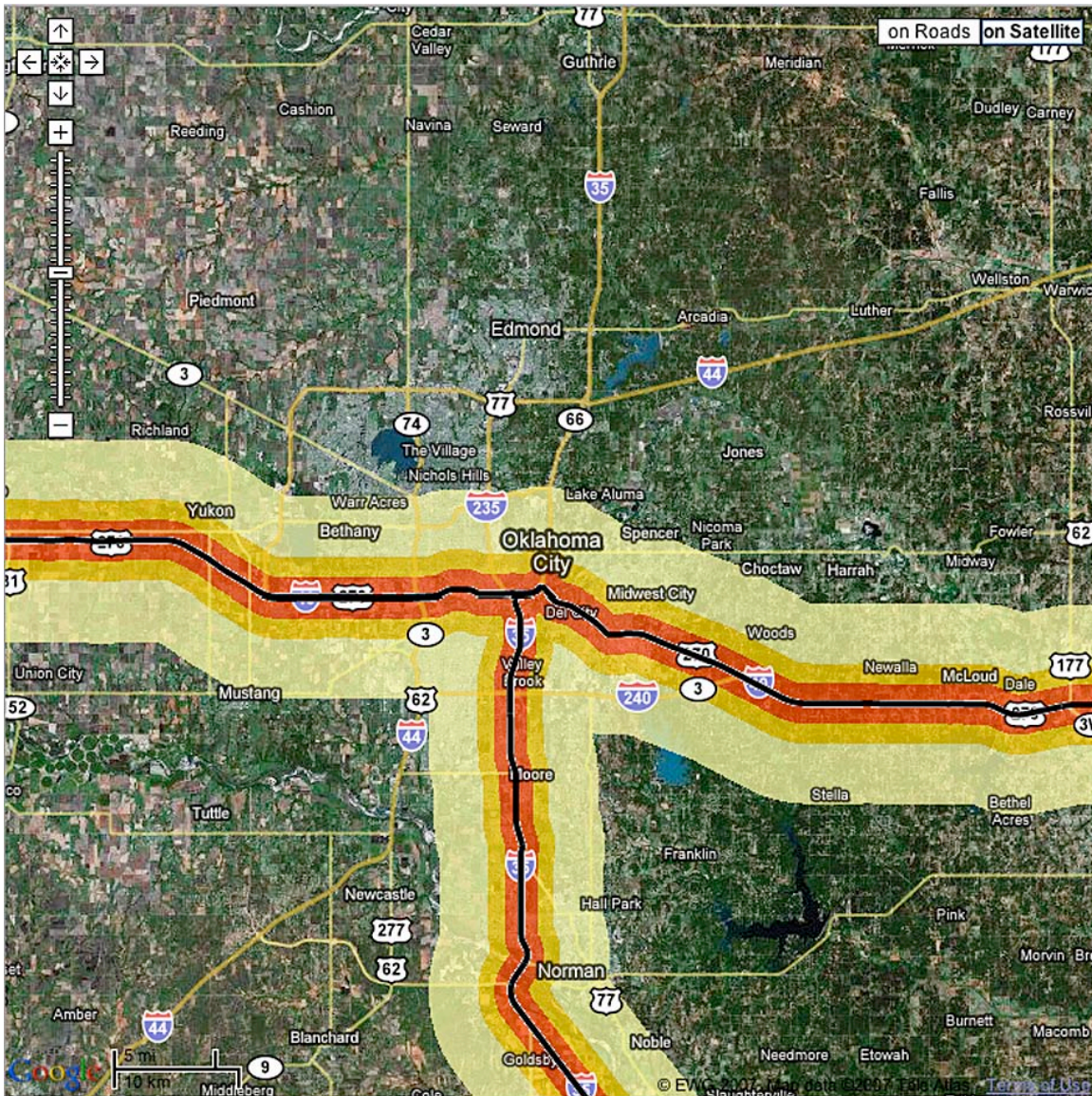


Figure J-51. Highway and rail routes used to analyze transportation impacts - Oklahoma and Texas.

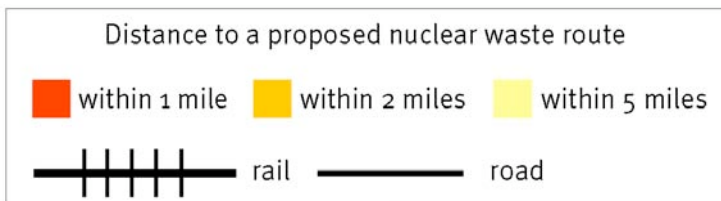


EWG NUCLEAR WASTE ROUTE MAP

Oklahoma City, OK

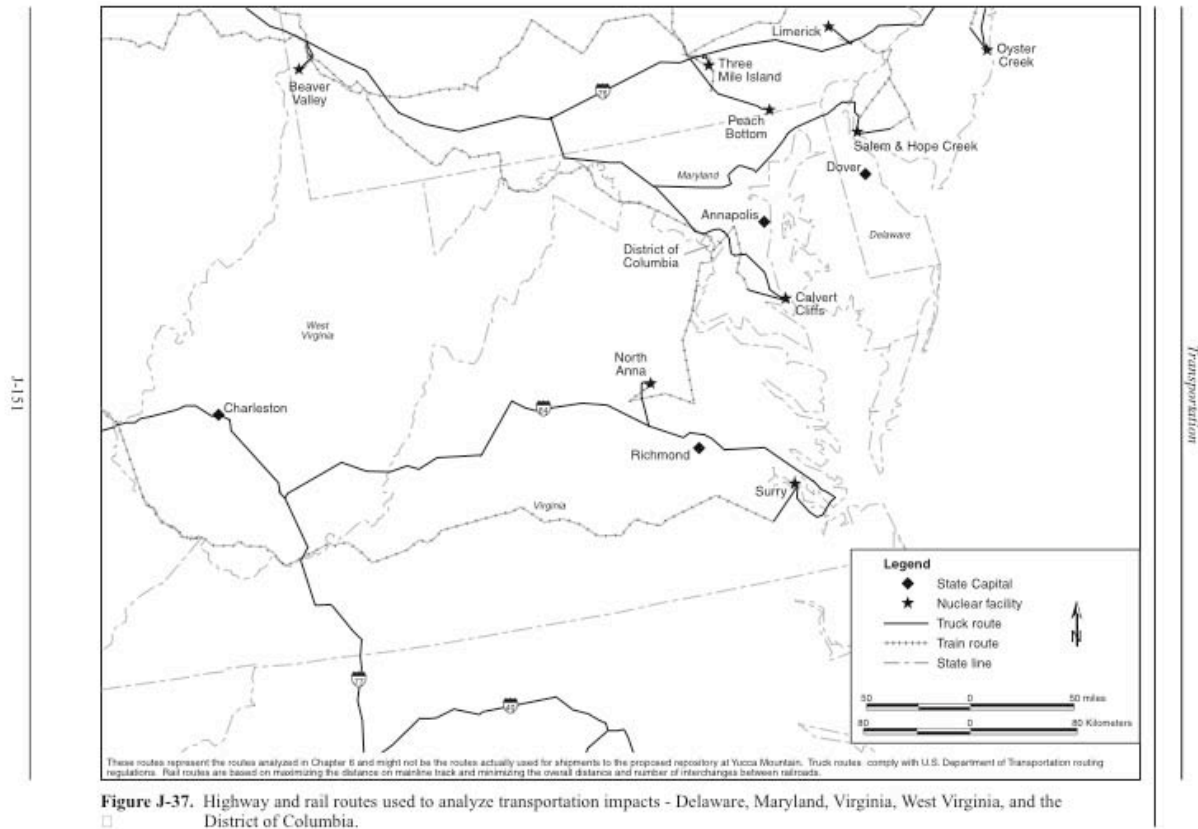


Prospective nuclear waste shipment routes to Yucca Mountain, Nevada as depicted on Google Maps.
<http://archive.ewg.org/reports/nuclearwaste/mapresults.php?&lat=35.493101786008395&lng=97.459716796875&z=10&type=on%20Satellite>



GOVERNMENT'S NUCLEAR WASTE ROUTE MAPS

Washington, DC

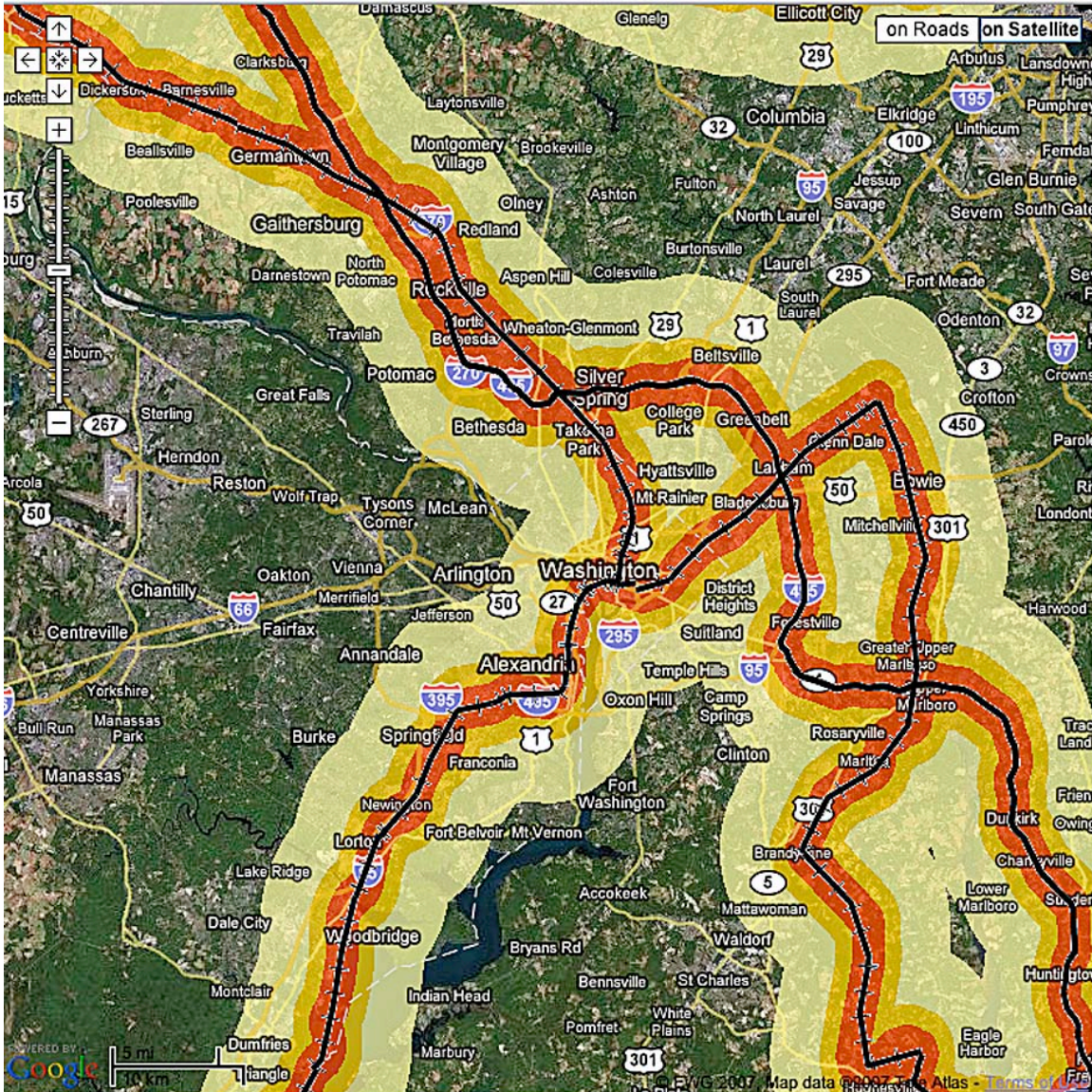


Official U.S. Government maps of prospective nuclear waste shipment routes to Yucca Mountain, Nevada.

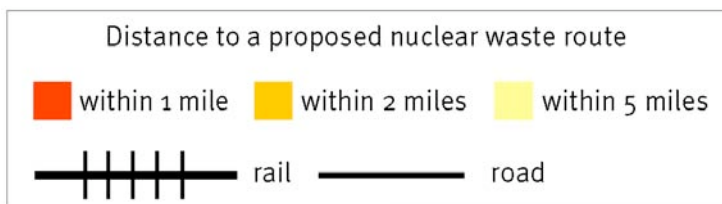
http://archive.ewg.org/reports/NuclearWaste/pdf/eis_j_DE-MD-VA-WV-DC.pdf

EWG NUCLEAR WASTE ROUTE MAP

Washington, DC



Prospective nuclear waste shipment routes to Yucca Mountain, Nevada as depicted on Google Maps.
<http://archive.ewg.org/reports/nuclearwaste/mapresults.php?&lat=38.892101707724315&lng=77.02377319335938&z=10&type=on%20Satellite>



There are no operating nuclear power reactors in Oklahoma, something the state has in common with Nevada. But EWG estimates that 254,000 people live within 1 mile of the Department of Energy's proposed routes for the shipment of high level nuclear waste across Oklahoma from out of state; some 879,000 people live within 5 miles. Our geographic information system analysis also finds an estimated 99 schools within 1 mile of the Department of Energy's proposed high-level nuclear waste transportation routes and 289 schools within 5 miles. We also estimate that 14 hospitals are within 1 mile and 29 hospitals are within 5 miles. Again, localized, community-specific information of this sort might or might not affect the opinions of Oklahomans regarding the shipment through their cities and their communities of nuclear waste from other states. The only way we'll know if this information is important is if we entrust it to the people of Oklahoma before decisions that affect them are made.

My point is that the people of Oklahoma and every other state have a right to know and fully understand the implications *for them* of the Yucca Mountain nuclear waste repository *before* the license for the facility is finalized. And they have the same right to know what expansion of nuclear waste generation will mean for transportation through their state if reactors around the country are relicensed for 20 additional years of operation, or new reactors are constructed. They may or may not know that decisions made hundreds of miles away will have profound implications for the shipment of high-level, deadly nuclear waste through their neighborhoods for decades to come.

This right to know the implications of shipping nuclear waste to Yucca Mountain is not being respected by our government in its rush to approve the operating license for the Yucca Mountain facility.

CONCERNS ABOUT EPA RADIATION STANDARDS FOR YUCCA

In August 2005, the U.S. Environmental Protection Agency published its proposed, revised radiation protection standards for the proposed Yucca Mountain nuclear waste dump. These public health standards set the maximum allowable levels of radiation to which humans can be exposed and the maximum level of radiation that can be in groundwater from leakage from the proposed dump. Under the Energy Policy Act of 1992, these standards are required to conform to National Academies of Science's mandate that the standard protect human health during periods when leakage will cause peak levels of radiation.¹ Unfortunately, EPA's standards neither protect public health nor meet the law's requirements.

EPA proposes a 15 millirems radiation dose limit for humans during the first 10,000 years of the proposed dump's operation (when no leakage from waste containers is expected), but would weaken the standard to 350 millirems after 10,000 years (when leakage is all but certain). In other words, at the time of the greatest threats to human health, EPA proposed weakening the standard by a factor of 23 times more lenient.

¹ *Energy Policy Act of 1992*, Pub. L. 102-486; National Academy of Sciences, National Research Council, *Technical Bases for Yucca Mountain Standards*, 1995.

Notably, nowhere in its proposal does EPA discuss the increased risk to human health and safety from the higher levels of exposure at the 10,000-year mark, despite EPA's and NAS's acknowledgement of a linear-dose response relationship between radiation and cancer. The risk to public health increases at higher levels of radiation.

EPA also seems to be intentionally disregarding its legal obligations. EPA's original human dose standard was 15 millirems per year for the first 10,000 years. EPA proposed that there be no public health radiation standard in place after 10,000 years, the period in which leakage is expected from the repository. But since EPA had arbitrarily determined that this standard did not need to be in place when peak leakage will occur, the DC Court of Appeals invalidated it as inconsistent with the Energy Policy Act.

In addition, EPA proposes the same groundwater protection standard that the District Court voided in 2004. EPA proposes a 4 millirems standard for the first 10,000 years, and no groundwater protection standard at the time when peak exposure is expected to occur, after 10,000 years. Radiation from the proposed repository will travel through groundwater, and the groundwater under Yucca Mountain provides drinking and irrigation water to tens of millions of people throughout Amargosa Valley and Southern California.

Moreover, EPA will not consider public comment on the groundwater standard in the proposed regulation, despite the fact that the groundwater standard is integral to protecting public health and that the radiation standard is integral to determining the safety and integrity of the proposed dump.

CONCLUDING OBSERVATIONS

I think we are all aware that the U.S. nuclear industry wouldn't split an atom without a subsidy. They never have, and they never will.

Nuclear energy companies never hesitate to lean on American taxpayers for money to conduct nuclear research, for indemnification in the event of horrific nuclear accidents, for money to clean up industry's lethal waste and cost overruns, or for the collateral of the public's purse—something the companies are seeking today to coax Wall Street out of its sober reluctance to invest in new nuclear reactors.

But the ultimate subsidy for the nuclear industry may well be our government's scandalous failure to fully inform our own people about the potential consequences of the Yucca Mountain repository until it is too late for the people to do anything about it but accept the risk, the expense, or the unthinkable.

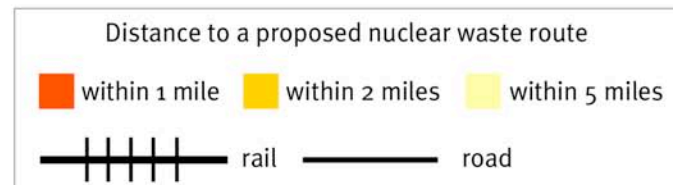
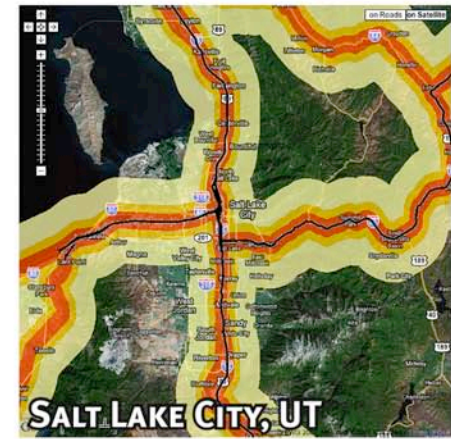
I thank you, Chairman Boxer and Ranking Member Inhofe, for this opportunity to testify, and I look forward to answering any questions or providing additional information at the pleasure of the Committee.



I wish to thank colleagues at the Environmental Working Group for the research and analysis underlying my testimony today: Richard Wiles, Sandra Schubert, Sean Gray, and Chris Campbell; and former colleagues John Coequyt, Jon Balivieso, and Tim Greenleaf. We are also grateful for technical assistance provided over the years by experts at the Nuclear Information And Resource Service and in particular by Kevin Kamps, now on the staff of Beyond Nuclear. EWG is responsible for the contents of this testimony.



NUCLEAR WASTE ROUTES





NUCLEAR WASTE ROUTES

