BGIC Yucca Mt. Coll. E1.2: 42/hourings/Linthium



DOE EIS SCOPING MEETING PUBLIC HEARING 10-11-95 at Linthicum, Maryland

DLM Yucca Mountain Research Collection

1	U.S. DEPARTMENT OF ENERGEY ENVIRONMENTAL IMPACT	
2	STATEMENT SCOPING MEETING	
3	PUBLIC HEARING	
4	OCTOBER 11, 1995 EVENING SESSION	
5	MARITIME INSTITUTE OF TECHNOLOGY AND GRADUATE STUDIES,	
6	5700 HAMMONDS FERRY ROAD, LINTHICUM, MARYLAND	
7	PETERDIOS - YES MOIBARE DRIBARN SIJEUS	
8	The public hearing was held on the 11th day	
9	of October, 1995, commencing at 6:15 p.m., before Linda	
10	A. Crockett, Notary Public.	
11	APPEARANCES	
12	FACILITATORS:	
13	KEITH JULIAN	
14	CATHERINE TICE	
15	U.S. DEPARTMENT OF ENERGY:	2
16	WENDY DIXON	
17	JEAN YOUNKER Univ. Nevada Li	brary
18		
19	TED DOERR AUG 1 9 1996	2

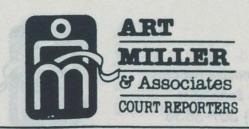
STEVE MAHERAS

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Reported By: Linda A. Crockett

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THE PROCEEDINGS

(MEETING IN PROGRESS)

QUESTION AND ANSWER PERIOD:

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FACILITATOR KEITH JULIAN: We're now ready for the first question. If you'll raise your hand and I'll acknowledge you and you can come up to the microphone. Yes, ma'am.

CINDY FOLKERS: My name is Cindy Folkers.

I'm a resident of Alexandria, Virginia. I believe it

was in October 1994 of last year they discovered tritium

deposits below where the planned repository is being

planned to be put. I just wondered what the result of

any studies dealing with that are?

WENDY DIXON: Jean, do you want to take it?

JEAN YOUNKER: You can.

WENDY DIXON: I guess I need to start off by saying there was some tritium found in a hole called UZ16. It's not in the repository itself, so that's not true, but it is in that general area of the repository.

The testing that's been done to date to age date the groundwater in that hole indicates that the



groundwater is approximately 5,000 years old. Tritium has, as you know, a fairly short half life; it's about 12.3 years, which indicates that we need to have a better understanding as to why that tritium is actually there, and there are several potential possibilities for that and we don't have an answer to why right now.

We are adjacent to the Nevada Test Site. We use some of their equipment and our efforts, our drilling program, and one of the things we need to understand with respect to that tritium is whether or not it got there from contamination from a piece of equipment that we brought into the site when we drilled the hole, or if it was picked up through one of the labs that was used through the analyses. It's an important question. We're trying to get an answer and we don't have one at this time, but we are looking at the possibilities.

JEAN YOUNKER: I can tell you what we'll do in terms of trying to understand it, if it could possibly mean that water travels down deep into the rocks at Yucca Mountain fairly rapidly because that

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would be important to us to understand how the waste would ever travel if it ever got picked up by the water, and the way we do that is with some computer model approaches, and we have some right now that are focused on some of these examples or observations of tritium at depth, and there are ways that, given that we understand how the hydrology of Yucca Mountain works, there are ways that we can begin to understand and explain how it would be that deep and what it would be, if it's that rather than the contamination that Wendy just mentioned, it would mean that sometimes you do get very localized rapid influx of water into the deeper rocks at Yucca Mountain, and there are reasons why that may be a reasonable explanation. Our models can be adjusted in a way that they would accommodate that happening.

As Wendy said, it's in progress and there's other pieces of information that kind of need to be looked at to see whether they support that kind of an answer.

FACILITATOR KEITH JULIAN: Yes, ma'am.

MARY OLSON: Mary Olson, Nuclear Information



and Resource Service. This presentation raised a new question for me. A three mile perimeter to the site boundary when we are dealing with things like reactor sites we talk about standards applying at the gate, so does this mean that radiological protection standards for the Yucca Mountain Repository, is the three mile perimeter the gate in this case?

WENDY DIXON: I guess the corollary would be the three mile perimeter is the gate, wherever your site stops.

MARY OLSON: Three mile radius?

WENDY DIXON: Exactly.

MARY OLSON: So anything within that area there is basically no standard?

WENDY DIXON: I'm not sure we're speaking the same language. Did you understand the question better, Ted?

TED DOERR: Let me start off and I think Jean can shed some light on this. The three mile to the accessible boundary is identified as such. Accessible environment is identified in NRC (Nuclear Regulatory

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Commission) regulations. In the three miles is designated as the extent, or quote, "for assessing the performance of the repository over long periods of time."

There's a location where it would be used as a source term to determine what might be the consequences to humans from that -- from a dose from that location. That's not to say that the performance assessments, as Jean is going to undoubtedly elaborate on are not looking beyond that three miles or the equivalence of what you are providing, the gate or the fence line, we're looking beyond that.

JEAN YOUNKER: Yes, I don't understand or I'm not an expert on how they do the calculations for reactor sites and I thought maybe you were going to comment on that, Ted. Because I think the way you look at the compliance for worker safety and for public safety during the operational period, I think probably there's another answer. I'm not sure on this because it's not my field of expertise, but what Ted said is true from the standpoint of looking at the long term



safety of the repository, you would look beyond the five mile limit, and in fact, the kinds of modeling that's being done will be all of the way out to where there would be a population predicted to live in the future.

Getting back to where your controlled boundary is I think is what she's getting at.

MARY OLSON: Yes. In theory with a reactor site, that's where your public dose load starts.

TED DOERR: You're talking in terms of the publically maximally exposed individual, is that what you're getting at?

mary OLSON: Aren't we getting now into the realm of a radiation standard that you really can't apply when you're talking about the ground? As construed by the NAS (National Academy of Science) we're talking about the average of an average of a least an average, so I don't know who we're protecting.

WENDY DIXON: In common terms, if you had the definition of a repository site which would include the footprint for the repository, whatever size that happens to be, and that's tied to your thermal load analysis and



your surface facilities, and from your site, however you define your site, you go three miles out. I don't know if that makes it any clearer.

FACILITATOR KEITH JULIAN: Good questions.

We're getting some good questions tonight. Don't be
shy. That's all?

MARY OLSON: I've got more.

FACILITATOR KEITH JULIAN: You're welcome,
Ms. Olson. Please ask them again.

MARY OLSON: Mary Olson, Nuclear Information and Resource Service. The routes and the fact that there is state participation potentially in the determination of those routes is very interesting. I don't know if you can give an answer to this question, but I'm curious about who in the states, and it might be different state to state, but which departments in the state get involved in that and what part of the deal we as ultimately involved in setting a route, kind of several questions connected here. Who is informed, whose jurisdiction is it there for.

WENDY DIXON: I'll start it out and pass it



over to Steve Maheras, our transportation expert. DOE
(Department Of Energy) does not have a say in a state
selecting a preferred route. We do not get in the
middle of that business. The Department of
Transportation has regulations that it sets up for the
safe transport of spent fuel and high level nuclear
waste, but the Department of Transportation recognizes
that states are most familiar with the peculiarities of
the transportation system within their own state, and
hence, there is obviously the potential that the state
might feel that one or another alternative
transportation routes are better for its purposes, so as
such, the DOT (Department of Transportation) sets up
guidelines to make sure that what the state does is in
fact at least equal to the DOT designated routes.

So the state has to go in and basically state what a preferred route is, show that it can meet the guidelines, but before the state can do that the DOT (Department of Transportation) regulations require that a state communicate prior to that time with the local entities, the local governments along those corridors so

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that no one is surprised within the state when a route is sent to DOT (Department of Transportation) for approval. But it's the state that has to do that interface with the local communities along those routes.

MARY OLSON: So if there is no state

designated preferred route it's DOT (Department of

Transportation) that establishes the route and DOE

(Department of Energy) just says driver go?

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WENDY DIXON: Those regulations are DOT (Department of Transportation) regulations, not DOE regulations.

MARY OLSON: If there's a pick who decides?

STEVE MAHERAS: If the state has not designated a preferred route then the interstates are used.

MARY OLSON: But there are some states where there is going to be some options here, so I'm just trying to figure out who makes that decision where that truck goes.

STEVE MAHERAS: That decision operationally speaking to go from point A to point B is made at the



time of the shipment and it considers things like the
weather, detours, closures of roads, et cetera, and that
decision has to comply with the DOT (Department of
Transportation) regs.

MARY OLSON: But who decides?

WENDY DIXON: It's the DOT (Department of
Transportation) designated routes unless the state comes
in, goes to the DOT (Department of Transportation) and

Transportation) designated routes unless the state comes in, goes to the DOT (Department of Transportation) and gets an approval for a preferred alternative route. It starts out with the DOT (Department of Transportation), the state can come in with something and get approval from the Department of Transportation.

MARY OLSON: Maybe it's completely determined and DOT (Department of Transportation) only gives you one choice in every state?

WENDY DIXON: No, no, that's not what we just said.

MARY OLSON: I'm trying to figure out, the truck is heading out of the parking lot, who told it where to go?

WENDY DIXON: Right now if the state says

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absolutely nothing, then the routing out will occur as tied to the DOT (Department of Transportation) regulation that says you get from where the source is to the nearest interstate and you stay on that interstate until you can go no further on that interstate to get where you need to go, then you take the shortest distance between two points, the shortest highway, if that's what it amounts to, to get where you need to bring that spent nuclear fuel or high level radioactive waste.

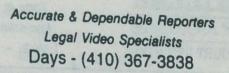
MARY OLSON: So the driver gets to make those calls?

STEVE MAHERAS: It's the carrier except the carrier has got to have the route approved by the NRC (Nuclear Regulatory Commission) from the security aspects, and in addition, the carrier has also got to file a route plan and everything has got to be approved and okayed. The NRC (Nuclear Regulatory Commission) doesn't approve a route plan that does not have compliance with DOT (Department of Transportation) rules built into it.



MARY OLSON: Is this going to be like a 1 traffic controller job at some point with 15,000 plus 2 shipments? 3 There's tracking systems set up WENDY DIXON: to track this material and they're fairly sophisticated. 5 STEVE MAHERAS: Satellites and the whole 6 business. 7 MARY OLSON: Can I ask another one? 8 FACILITATOR KEITH JULIAN: Is there anyone 9 else who would like to ask a question? Go ahead, 10 11 Ms. Olson. 12 MARY OLSON: I've heard a number of different projections for rates of accidents and incidents that 13 are floating around out there like crazy, and I've also 14 heard, at least from a DOE (Department of Energy) 15 meeting early on in the system's architecture process a 16 projection on the number of possible catastrophic 17 accidents that would be expected in this whole program. 18

I'm wondering if you could either share those numbers tonight or at least reference the numbers that you guys are going to use in making any kind of analysis



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of impacts from accidents?

STEVE MAHERAS: What kinds of accidents, transportation accidents or facility accidents?

MARY OLSON: Actually, I'm interested in both, but I was thinking specifically of transportation accidents.

STEVE MAHERAS: On the transportation accidents the database that will be used is a compilation of data prepared by Oak Ridge National Laboratory, and that goes through and estimates five years or so of state specific data, so for the distance traveled within a given state we plan to use state specific data for that particular state. That's the source of the information.

MARY OLSON: And do you guys have a ballpark on the number of catastrophic accidents that are to be expected?

STEVE MAHERAS: No, I don't. That's got to wait for the DEIS (Draft Environmental Impact Statement) work.

WENDY DIXON: I guess I'm somewhat concerned



that there's a communication problem here. You're talking a catastrophic accident and I don't think anyone here can predict that there can even be a catastrophic accident from the shipment of spent nuclear fuel and high level radioactive waste.

These containers that they're put into are very very robust, and for them to be used they have to be certified by the Nuclear Regulatory Commission and for them to receive the certification from the NRC (Nuclear Regulatory Commission) they have to be shown that their design and construction can withstand a lot of very serious incidents or accident scenarios. We're talking about drop tests from high distances, engulfing with flames, submersion in water.

The reason these standards are as high as they are is that if there is an accident they want to make sure that the radioactive materials with, that the NRC certified casks stay stay within that cask and they don't get out and cause what you're calling a catastrophic event.

MARY OLSON: Has Mr. Dreyfus determined





whether there will be full scale physical test of MPC (Multi-purpose canister) if the DOE builds it?

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WENDY DIXON: That decision has not yet been made at this time.

MARY OLSON: It has not yet been done on any casks.

STEVE MAHERAS: That's not quite true. They have done cask testing up to full scale at SNL (Sandia National Laboratories) so it is the case that they have done scale testing. Full scale cask testing has been done on casks before.

MARY OLSON: I would love the references on that.

STEVE MAHERAS: I've seen the films.

WENDY DIXON: We'll get you that information.

MARY OLSON: Those weren't tests.

FACILITATOR KEITH JULIAN: And the second part of your question about facility accidents?

MARY OLSON: What's the basis of projections for facility accidents?

WENDY DIXON: We're looking for input. We



haven't figured out all of the details for everything that's going to go into this Environmental Impact Statement. When you do accident scenarios you need to look at things that are reasonably foreseeable and not come up with things that are outside of the bounds of reason.

We need to look at things that could have a high consequence but a very low probability of taking place, and we need to bound them as well with things that have a high probability but a very low consequence. So the EIS (Environmental Impact Statement) needs to ban potential impact that can occur both during the transportation of the material itself as well as during the course of its handling at the facility.

TED DOERR: From an accident scenario basis, as Wendy pointed out, they will be looking at high probability, low consequence sequence; low probability, high consequence accidents evaluated and then a bounding accident will also be evaluated within the EIS, and what the initiating events are I don't know at this time simply because we're entering into those kinds of

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evaluations to start the analysis for the EIS (Environmental Impact Statement.)

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MARY OLSON: If I may have one last question? FACILITATOR KEITH JULIAN: Go ahead.

MARY OLSON: Jumping to a different thought process now. It was explained to me some time ago about a technical determination called the drop, which is the day when the fuel assemblies and the rods all sort of drop in whatever container figuration they are in, and this was explained to me by an engineer who figured this was thousands of years out in the future and was thinking about criticality and concerns about placement of waste.

There's a lot of evidence that storage in casks and canisters today is causing embrittlement of fuel clouting, and that this alleged drop may in fact occur in some cases before the fuel is even in place.

And I want to know whether that affects your considerations of that repository design or not?

JEAN YOUNKER: I'm certainly not an expert in this area, but I can tell you the little bit that I do



know about it, and that is in terms of the way the MPC (multi-purpose canister) would be designed as well as the way it would function if it becomes a waste form for disposal at the repository, they are looking very hard at what kinds of internal configrations have to be maintained in order to meet the NRCs creditality requirements.

So I think from the standpoint of whether, like I know I've heard discussions about whether, depending on now the initial MPCs are constructed, we might even end up in a situation where we would have a facility at the repository to open them and add something to them to make sure that the internals would have a longer lasting potential then they would have for the usage as a storage container. So those kinds of things are being considered, being looked at.

MARY OLSON: Has the work at Los Alamos by Bowman affected that?

JEAN YOUNKER: I think certainly from a performance assessment perspective, which is where I do have some knowledge, when you start looking at scenarios

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in the long term and say what would happen if one individual waste package did somehow rearrange itself in such a way that you could have one of those criticality events like what the people at Los Alamos have speculated. We are certainly going to look at that and that will be evaluated as one of our scenarios that we have to look at to say how would could that change the safety of the overall system, so from a performance assessment perspective we have to look at that.

MARY OLSON: An exploding repository might have a different isolation capacity.

JEAN YOUNKER: A local criticality of the kind that they are talking about isn't an explosion in any sense of the word.

WENDY DIXON: I'd like to add to Jean's comments. The scientific community comes up with a lot of different opinions and we take these different opinions very seriously, and we need take a look at them. The Bowman theory, they did not understand in their calculations the hydrology of the site, the geology of the site, the design of the repository, or

the waste package, and those are all important things for one to understand when one comes up with a model that gives you a conclusion at the end.

so this was a theory, but it was based on assumptions that are not appropriate to Yucca Mountain. And that is a major issue. That report has gone through three internal LANL (Los Alamos National Laboratory) reviews that disagree with Bowman's conclusions. It's gone to the National Academy of Science for review and they don't conclude Bowman's conclusions were correct.

The probability or the potential of a repository exploding from our analyses and those who have looked at it is impossible. The probability or potentiality of one waste package going critical and not effecting any other waste package because of the spacing between these waste packages and the need for water for criticality to take place was, as I recall, the potential of one happening in between, what is it, 10,000 and 100,000 years, and that even if one, as Jean did indicate, went critical it couldn't affect any of the other waste packages around it because of the space



issue.

When you come up with a theory, and I think theories are good and they need to be explored, and the scientific process on this will continue, you do need to take a look at the assumptions that were used in that theory to make a determination as to whether or not they were, in fact, appropriate or are appropriate for this site and the conditions that you're facing in reality.

MARY OLSON: Yes, all assumptions need to be looked at. Thank You.

FACILITATOR KEITH JULIAN: The gentleman in the short-sleeved shirt.

RICHARD FARLEY: Good evening, my name is
Richard Farley. I live in Frostburg, Maryland. I just
have a couple of scoping questions. In the EIS
(Environmental Impact Statement) description it lists
socioeconomic factors as being among those things which
you're going to consider. Can you define that a little
bit, what that means to you, socioeconomic factors?

TED DOERR: For purposes of the EIS socioeconomics generally deal with attributes such as



employment, housing at times, if that's appropriate, attributes of that nature, also with socioeconomics there will be evaluations related to environmental justice.

RICHARD FARLEY: To what?

TED DOERR: Environmental justice which is one of the executive orders that has come down over the last couple of years which evaluates the equity of potential consequences to minority and low income populations.

RICHARD FARLEY: I'll stay within my time limit. I just want it focus in here. I've been around the bend on this before. I'll give you a little scenario and see how you can tell me if this is going to be addressed. I'm particularly interested in the transportation routing issues and that is something that you're studying as part of the EIS (Environmental Impact Statement) process.

I'm just a lucky guy living along Interstate 68, and back in 1986 I was living near the Great Smoky Mountains National Park when DOE went around with 11

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eastern potentially acceptable dump sites process and I was a co-director of a citizens grass roots group there called Save the Mountains, and we had quite an event going on down there, and one of the things that we did, and this was interesting, we were able to get Senator Helms to call President Reagan to ask to stop the process after our Governor Joe Martin, who was a chemistry professor who had opened up our hearings, because we didn't take a nuclear stance on this issue.

What we learned was that when the Tennessee Governor's Office studied the possibilities of having the temporary repository at Oak Ridge, which was part of one of the scenarios they were looking at, they did a tourism analysis and they saw that when they did surveys of U.S. travel data centers that people who were surveyed who were vacationing in the area or traveling through, they found a huge percentage of those people would alter their routes or whatever if they knew there was a nuclear facility there or that high level radioactive waste was coming through regularly.

They applied the numbers to the regional



tourism data and found some pretty alarming numbers.

Again, not having anything to do with the actual safety or the actual risk, but on the public's perception of those risks and how it might effect economics and tourism in the region. So we used the same strategy, in all honesty, with the Chamber of Commerce with the people of Ashville and ran the numbers, the same percentages as the study, through the Ashville Bunkum (phonetic) County Tourism.

Some of you may have been involved in that process or remember it. And we came up with significant numbers, and I was with a PR firm and they assigned me to work with this group to keep the issue focused because they were concerned about the tourism impact, again, keeping it completely separate from the environmental political, which personally has still some personal concerns.

So this issue of the transportation routing as it moves through the Appalachians, for example, where tourism is taking over as one of our primary economic drivers in Western Maryland and West Virginia, my home

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state, or other areas where your routing is, would those kinds of factors be considered anywhere in this process, i.e., that there's still an adverse public perception or negative reaction, could this affect us in any way? Do you understand where I'm headed? Is this going to be looked at?

TED DOERR: Yes. What you're asking is would that information have an effect related to routing and what routes are evaluated in the analysis?

RICHARD FARLEY: That was good data and that's what brought the governor's office into the game in western North Carolina that said, this is the guy who was very much a supporter of nuke power, for example, so he jumped political fences, and the people in western North Carolina said, hey, we don't care what's good or bad, if the tourists believe this is the problem and they change their destinations or they change their situation, and generalizing it to this program, it could affect whether or not they would develop the new business or tourism facility, or whether people want to move to an area there, that's what I guess I'm asking.



WENDY DIXON: I think the question that you're asking is whether or not the Environmental Impact Statement will deal with perception of risk?

RICHARD FARLEY: Yes.

WENDY DIXON: The answer is no, Environment Impact Statements do not consider perceived risk issues and that socioeconomic effects have to tie to an effect with the physical system, the environmental physical system itself in some manner, shape or form.

We have tracked and followed a perceived risk study, which is what you're talking about, with a great deal of interest, and in fact, the results of our tracking these studies have indicated that perceived risk is a very difficult adventure to get into and that what people say they're going to do: I'll never go to Hersey Park again because of Three Mile Island and tourism is going to die there, what they say they're going do and what they actually do are two very different things, so that's a very difficult arena.

RICHARD FARLEY: We figured after that strategy worked in western North Carolina that you guys

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would take a very close look at that. It was an honest strategy. It was based really on the economic potential impact for the region. It was not interested in banking on DOE or the nuclear industry's ability to sell the program.

TED DOERR: What occurs is the issue related to perceived risk becomes a level of speculation that can't be handled through any analysis, and therefore, is beyond what an Environmental Impact Statement is meant to look at.

RICHARD FARLEY: Could I ask a couple more?

FACILITATOR KEITH JULIAN: Sure, unless there are others.

RICHARD FARLEY: This might be for Steve since you're the transportation safety lead here. As you assess the risk of potential routes and mitigation of those for worse case scenarios, and obviously, you're having to deal with those, what planning process and training and consideration process is going to be put in place over this fairly lengthy period here for public safety agencies, mostly in Appalachians you're dealing



with volunteer fire departments, rescue squads, HAZMAT, EMT, already maxed out on training time and volunteer time, so you see where I'm heading with that. Talk to me about that.

WENDY DIXON: The Nuclear Waste Policy Act itself recognized that there would be a need to help support states in emergency management and training and equipment and whatever was necessary. And in the Nuclear Waste Policy Act they have a section called 180(c) that defines setting up and providing funds to states for that very purpose, and in fact, the Department of Energy has gone out with a notice in the Federal Register soliciting input from states both in January and July of this year dealing with what kind of mechanism is best to put this kind of system in place.

What DOE (Department of Energy) would like to do is provide the funds to the states and have them help determine what their specific needs are because each state is going to be at a different level of capability or need different types of support, and certainly most of them will need certain amounts of training, but it is

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recognized that support is required. It's part of our legislation, something we're currently working on developing at this point in time because spent nuclear fuel and high level radioactive waste is not planned on being shipped at the earliest, should we get our license and suitability determinations and Environment Impact Statement, you're talking about the year 2010, so our timing of setting up and the timing of the states taking funds and initiating training programs for local municipalities or whoever might need them as determined by the states and wherever the routes might be is very premature right now.

You don't want to start your training program until you get considerably closer, within three years.

RICHARD FARLEY: If I may, when you're doing the EIS (Environmental Impact Statement) and you're suggesting perhaps risk Interstate 68 and down in Cumberland goes right by the Potomac, so it goes across the bridge and have an accident or the rail center where CSX comes through, so basically you're talking about the watershed from Washington D.C.. We like to joke with



our friends, if things get bad, remember, we have your water. But these are issues also that as you assess those risks for your EIS the question really becomes, do we have the infrastructural potential to deal with those risks or would we need to have some super infrastructure on some of the more remote areas, some of the higher risk areas? In other words, when you put out an EIS (Environmental Impact Statement) you have to have some sense of whether or not infrastructure is in place or could be developed or will be developed to deal with that.

TED DOERR: Related to the EIS (Environmental Impact Statement) in potential evaluation and analyses there are going to be a sequence of fundamental assumptions associated with accidents and what might be the potential consequences associated with accidents which would include what are some of the assumptions on capacities or issues related to emergency response.

STEVE MAHERAS: Typically in the transportation assessments we do not take any credit for emergency response occurring.

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RICHARD FARLEY: What do you mean you do not take any credit?

STEVE MAHERAS: We don't reduce the doses to account for an emergency response action having occurred in order to provide an upper bound on potential impacts.

RICHARD FARLEY: So you assume, for purposes of your safety analysis, if you have a breach you've got a breach and you've got to be considering that going in; is that what you're saying.

STEVE MAHERAS: No. I'm saying after the accident occurs we don't take any credit for the emergency response folks evacuating people or any other actions like that.

WENDY DIXON: He was agreeing with you.

RICHARD FARLEY: I got that, I think.

STEVE MAHERAS: Sorry about the jargon.

TED DOERR: Within the EIS (Environmental Impact Statement) there's a section called mitigations, and mitigations would identify certain actions that could be taken using Steve's parlance, that would be given credit for so that the identification of



consequences would be reduced if those mitigations were put in place.

RICHARD FARLEY: One really quick thing.

When you talk about assumptions, give me a citation or direct me to where the radiological health limitations or what standards are now in place now as far as potential exposures and basically certified, what are safety limits, i.e. for rail workers, other people there?

In fact, I used to be the coordinator of information of policy and analysis for the Cousteau Society in a previous life, but one of the issues that came up at that time was after the reevaluation of the plutonium yield of one of the Nagasaki bombs, or whatever, it changed the tumor registry, it dropped all of the doses down, and if you remember there was a pretty big fight and while it really affected mostly the uranium miners and Navajo miners and the nuclear plant workers who suddenly said, oops, never mind, we've set the limits by a magnitude of 10 or 50 or something too high. So that became a kind of an issue as to the IAEA



(International Atomic Energy Agency) was way behind in their standards. So when you develop your radiologic exposure limitations, the old what do you call it, what's healthy is how many chest X-rays is safe, not to tag you guys with the predecessor philosophies. You all I know have grown up in a different era, but where do you footnote when you set a limitation that's acceptable or whatever for industry, where is that now; what's the citation?

STEVE MAHERAS: As far as transportation goes the EIS (Environmental Impact Statement) is not going to set standards. The Department of Transportation sets standards.

RICHARD FARLEY: Who sets the radiation exposure limits generically? I think, Dr. Younker, do you know the answer?

STEVE MAHERAS: The problem is the answer is in a variety of places depending on the scenario that you're talking about. The Department of Transportation sets exposure type standards on casks and the EPA sets dose limits for atmospheric effluents out of a stack of



a nuclear facility and the NRC (Nuclear Regulatory Commission) would also have those kinds of standards existing and the Department of Energy also has those kinds of standards. So to answer your question it depends on the individual case that you're talking about, where I would point you to in the reference.

RICHARD FARLEY: When I want to consider the human being coming into contact with any of those scenarios, where is that limit when you have a possible exposure risk in any of this; what is the baseline that you use as far as what is currently considered safe and not safe?

STEVE MAHERAS: You mean to convert dose to cancer risk?

RICHARD FARLEY: Who is right now got the standards you are using for this thought process for human beings? What are you using as your database or baseline? I know you probably have a buzz word for it that I don't know, environmental health limits from radiation exposure.

WENDY DIXON: Steve, you know the answer to

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this. I think you guys are dismissing the question because there are certain standards set up for if you're a worker with radiological materials on a daily basis you have one standard. If you're somebody who is not expected to be exposed to that kind of environment you have a lower standard, and for these different standards there's treating required so that you know what to do and how many hours of exposure you can have if you are a worker in that area.

RICHARD FARLEY: Who codifies that now; where is that codified in the infrastructure in the DOE?

WENDY DIXON: Part of it is codified within DOE itself, but I'm sure that beyond DOE there's others.

STEVE MAHERAS: It's codified by the NRC (Nuclear Regulatory Commission) and the EPA. It depends on the case that you're talking about, the specific case that you're talking about.

RICHARD FARLEY: So when you in the EIS

(Environmental Impact Statement) suggest something is
safe you're suggesting that this would be a favorable
alternative, that this would be safer, I guess we'll



have to look at a case and cite specific situations to understand what your basis of safety was, your assumptions?

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TED DOERR: There are exposure limits that are identified. Unfortunately, because I don't routinely work with those I cannot point you directly to that. If I can get your name I'll make two calls and get back to you.

worked with some DOE guys trying to get this tumor registry thing done in '82. It was just a matter that they were changing the standards and it was very confusing for everybody, including the folks in the agency.

TED DOERR: For example, air emissions, there's a different emission level that is permitted compared to what is the dose limit for water, as a drinking standard.

RICHARD FARLEY: And that's going to be a big deal.

TED DOERR: Let me get back with you in a

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couple of minutes.

RICHARD FARLEY: Thank you, that would be helpful.

FACILITATOR KEITH JULIAN: We're getting some excellent questions tonight. Anyone else who hasn't asked a question? We still have about 15 more minutes?

Ms. Olson, go ahead.

MARY OLSON: I just want to ask a clarifying question based on the last one, and I understand that you may not have the exact citations, but if I understand it, the rate of gamma radiation coming off of a cask on a truck could be high enough to expose members of the general population, say if they were stuck in a traffic jam for a couple hours to something that would range into the range of a chest X-ray or two. What radiological standards are going to be applied for the waste during transit; are those NRC (Nuclear Regulatory Commission) regs?

STEVE MAHERAS: No. It's Department of Transportation regulations found in 49 CFR 173 and some change, I believe.



exists in the federal agencies when you have a standard that's set by DOT (Department of Transportation) and yet NRC (Nuclear Regulatory Commission) has promulgated a limit for what they consider to be a total fuel cycle exposure from all of commercial nuclear power, I would assume that radiated fuel from commercial nuclear facilities comes under that? Is there any kind of relationship or weaving together of these different standards that you're aware of?

WENDY DIXON: There are for different purposes. Now, at the DOE (Department of Energy) facilities, at DOE (Department of Energy) sites, DOE takes a lot of these various regulations that have been promulgated by the NRC or the EPA, or whoever it may happen to be, and then they give us guidance in the name of things such as the Radcon Manual, the Radiological Protection Program, and we have such a beast for our program as well, which I saw a nod there.

You know what kind of extensive analysis and time and energy goes into not only creating how you're

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going to implement the requirements that are put down upon you, but actually implementing them and tracking all of the information as it relates to what kind of radiological pieces of equipment or sources or whatever you might have at the site and the whole nine yards.

Those are very extensive programs. I'm most comfortable with it from DEO's perspective personally because DOE (Department of Energy) has taken these various other regulations and rolled them together in what we implement and in how you make sure you stay within the principals allowed, which is the lowest reasonably achievable at your particular site.

MARY OLSON: One last question on this line of thought. Recently the Department of Energy has put in a petition to the NRC (Nuclear Regulatory Commission) to change the allowable limits under accident conditions at the repository site and I'm wondering what the reason for that question is, what is the basis; what are you guys anticipating that you're asking for 50 rem exposures? You're not familiar with this petition?

JEAN YOUNKER: Could you please state that

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1 question again?

MARY OLSON: I want to know the basis for why
the Department is seeking a change in the allowable
exposures to the public from accident conditions at the
repository site?

JEAN YOUNKER: I think, and I could be wrong on this but I believe the reason we asked for that change is because there wasn't a standard provided for accidental doses in Part 60, which applies to the repository, so they were asking for that to be added, not change what's there, but simply to add in for accidental exposure.

MARY OLSON: That's not my reading.

JEAN YOUNKER: I don't think there's one there.

MARY OLSON: It's substantially larger than what was there.

FACILITATOR KEITH JULIAN: Any other questions? We still have another 10 minutes or so in our scheduled question and answer period. Any other questions? If there are no other questions at this

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point then we will adjourn the meeting for 15 minutes and recommence at 10 minutes until 8 with the formal comments period.

I know some of you were here just to make your formal comments and so we will go ahead and begin that early, but to remind you that there will be representatives from the Department of Energy here tonight both in this room and in the exhibit room to answer any questions that you might have that may come up, or again, you can submit the questions to any of the telephone numbers or addresses which were previously indicated should those come up later.

We thank you for your participation in the question and answer period and we'll now adjourn for 15 minutes. Thank you.

(Recess.)

PUBLIC COMMENT PERIOD:

FACILITATOR CATHERINE TICE: I'm Katherine
Tice. I'll be facilitating this portion of the scoping
meeting tonight. In addition, there are two
representatives of the Department of Energy at the table



here on your left, Jean Younker and speeding down the center aisle to join her, Mr. Bill Freeland. In addition, we have a court reporter here at the front of the room who is recording the meeting this evening.

The Yucca Mountain Repository Environment

Impact Statement is being prepared in accordance with a

number of laws and regulations.

The first is the Nuclear Waste Policy Act of 1982 and its amendments, and also, importantly, the National Environmental Policy Act of 1969, which is commonly known as NEPA, also the Council on Environmental Quality Regulations that implement NEPA, and the Department of Energy procedures for implementing NEPA. The Department of Energy invites federal, state and local agencies, native American tribal organizations and all other interested parties to participate in determining the scope and content of the Environment Impact Statement.

The Nuclear Waste Policy Act directs the Department of Energy to evaluate the suitability of Yucca Mountain as a potential site for geologic

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repository for the disposal of spent nuclear fuel and high level radioactive waste.

The development of Yucca Mountain as a repository would constitute a major federal action, and therefore, under NEPA an Environment Impact Statement must be prepared.

The Nuclear Waste Policy Act also provides that the Environmental Impact Statement does not have to consider the need for a repository, the alternatives to geologic disposal or alternative sites to Yucca Mountain.

The Environmental Impact Statement will, however, evaluate reasonable implementation alternatives for the proposed construction, operation and eventual closure of a repository at Yucca Mountain, as well as options related to transportation and packaging of spent nuclear fuel.

Your comments here this evening during the formal comment segment should focus on environmental issues associated with that proposed action, that being the construction, operation and closure of a repository



and on reasonable alternatives for implementing the proposed action.

There are other forums to express your opposition to or support for the project. However, this is your opportunity to provide constructive input to the Environmental Impact Statement process.

I would like to reiterate one more time that written comments may be of any length and may be submitted here this evening to a facilitator or a Department of Energy representative or by Mail, toll free telephone, toll free Fax, E mail, or through the Internet any time between now and the close of the 120 day scoping period, which is December 5, 1995. You can find the numbers and addresses at the information table outside of the room.

Before we begin I'd like to go through just a few procedures and ground rules for the session. Again, tonight's proceeding are being recorded word for word by a court reporter. The transcript will become a part of the official record. We ask that you identify yourself, your organization or affiliation, if any, and



your address before you begin making your comments. We also ask that you speak slowly and clearly into the microphone so the Court Reporter can record your comments accurately.

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I'd like to ask that you be courteous and respect the views of others, refrain from side conversations while comments are being made. This makes both the commentor and the court reporter's job more difficult.

I'll be calling commentors in the order that people have registered for this evening's session. I'll call two names as at a time. The first will be the current commentor and the second will be the on-deck commentor. I will ask you to come to the microphone that's in the middle of the aisle here to make your comment.

If you wish to make an oral comment this evening and you haven't registered, please do so at any time as we continue through the meeting this evening.

There is a ten minute time limit for oral comments.

This limit is in effect to ensure that all folks here



this evening get a chance to make a comment. This is a
procedure that has been standard at all of the scoping
meetings across the country. We have a light clock.
It's this gray box that's here on the table. When you
see the yellow light come on you have one minute
remaining. When the red light comes on your time is up
and we ask that you conclude your statement at that
time. The state of
4.7 12.4

I would like to note that we do not have a large number of commentors tonight. And you have always the option of being wait-listed for a second ten minute comment if you wish to do that.

Finally, there will be no responses to comments this evening by Department of Energy representatives, although all comments will be noted in the Implementation Plan.

Our first two commentors this evening are Ray Stevens and Peter Leigh. Mr. Stevens.

RAY STEVENS: My name is Raymond Stevens.

FACILITATOR CATHERINE TICE: Before you start we can raise that up.

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RAY STEVENS: I live at 46 A Ridge Road in Greenbelt, Maryland. I have a couple of written comments that some people gave me who were not able to attend. I'd like to turn them in.

FACILITATOR CATHERINE TICE: You can do that when you finish your comment.

RAY STEVENS: Bear with me. I'm just winging this. I'm speaking as a private citizen, but I'm also a member of the Board of Directors of Greenbelt Homes, which is a 1,600 unit cooperative housing project at Greenbelt, and I'm quite concerned about the possibility of transporting nuclear waste through our town.

The Interstate 95 goes through Greenbelt and the railroad line from Union Station comes through Greenbelt, and there are very particular concerns that I have about this, and I've been through this sort of process before in New Mexico with the Waste Isolation Pilot Project, so I'm speaking from that experience, and I've just pulled out from your hand-out on the summary and purpose of where you mention the Environmental Impacts too, and you're talking about natural resources



such as water and air, and I really hope that this
Impact Statement
deals with the fact that every drop of water that hits
the ground anywhere around Washington D.C. or Maryland
goes into the Chesapeake Bay, and if there were to be an
accident or a nuclear spill that was washed down, it
would go into the storm sewers and into the Patuxent
and/or Potomac River and into the Chesapeake Bay, which
has enormous environmental and economic ramifications

And also any air pollution. The air is polluted badly enough in these highly concentrated urban areas to not want to add to this. When you mentioned workers and the public having impacts from transportation, I'm aware from the Wipp hearings that these canisters are not totally sealed, that there is radioactive emissions from these canisters and we were told at those hearings as long as the trucks keep moving no one along the way will have any significant radiation effects, and I'm worried about what happens when one of these trucks gets stopped on

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for the State of Maryland.



the Washington Beltway for a couple of hours. Does that mean that everybody sitting in their car for a couple hundreds yards around is going to get a chest x-ray every few minutes?

Also I was told at the hearings in New Mexico that once these shipments keep moving they don't stop because of this and security reasons, and I really hope that you will, when you do your Impact Statement, not make the assumption that all of these trucks are going to be going down the average interstate on the average sunny day at 55 miles an hour in average light traffic.

If something comes up they will get off the interstate and go to secondary roads; they will try to keep moving, and I don't think that we have the road system to handle trucks, certainly not around our town. I have seen big trucks have to get off the interstate and come through Greenbelt trying to get around traffic jams.

The possibility of accidents, I'm not even going to talk about that. You better really work on that. The possibility of an accident anywhere around



the whole east coast is incredible, and especially in a place like, you can talk about Interstate 95 being an interstate, but it's also the Washington Beltway, and it's really uncomfortable to consider a lot of trucks with nuclear waste moving up and down through that area over a long number of years.

The railroad shipments worry me. There's a rail line that comes through. We've been told that shipments from the North Anna Plant in Virginia will probably come up to Union Station and then be routed out, they said possibly through Silver Spring, which is somebody else's problem, but there's also a train line up through Union Station and up through Greenbelt.

Mark Rail System from Baltimore and it parallels the Washington Metro. It has railroad crossings that the vehicle traffic is on the same grade with just little wooden gates to stop traffic coming both ways. It would be very dangerous to be running train cars of nuclear waste on this line. There are houses right up against

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the railroad track all of the way up, the bad crossings and the problems. If there were to be an accident or if the train should stop, you know, next to the Greenbelt Metro Station, for instance, how many people are standing around being affected by the radiation coming out of this?

I think that basically also I want
to stress that I believe that you should most seriously
consider the "no action" alternative, and one of the
things I would like to see your impact statement
reflect is anything you say about the "no action"
alternative is necessarily true, real facts. The
nuclear waste is sitting somewhere. It's been there
for a long time, and you can very accurately assess what
the environmental impact of leaving it sit there, but
the environmental impact of when you start moving it
around is going to be a guessing game, and you're really
going to have to dig into all of the possible
ramifications of moving on different types of highways
in different types of conditions under all sorts of
different situations, and you really need to speak to



that, not just sort of pass it off and say, well, we will move the radioactive material.

I can't imagine that you could honestly come up with a scenario other than the "no action" scenario that would be an improvement over that and be in any way cost effective, because apparently, the tax payers are going to pick up all of this, which brings me to my final point I want to bring up because we got this through the Wipp hearings in New Mexico.

We were led to understand that the local merchants or response people would be responsible if there were an accident, the local volunteer fire department, the local police department, the local hospital emergency room, and we were lead to understand that if Congress would give them some money they would probably train these people one time, and this is nonsense. The personnel of these types of agencies changes constantly, and it's going to be very costly and it would be, I feel, the federal government's responsibility if you're considering doing this to see that there is an ongoing thorough constant training



program for emergency response. If you do that,
and I don't think that it's fair to put this sort of
thing on a unit such as a local volunteer fire
department, many of whom are better at running bingo
games than most anything else. So that's basically what
I have to say.

I really would hope that this impact statement picks the "no action" alternative against all other alternatives and really really goes out of its way to show what the real dangers and the real expenses will be if you start moving nuclear waste from this area or any place in the country out to Yucca Mountain, and I'll let the people from out there talk about what's wrong with Yucca Mountain.

FACILITATOR CATHERINE TICE: If you would like to submit those to Mr. Freeland now this would be a good time to do that.

BILL FREELAND: For the Court Reporter, we'll mark these Baltimore Evening Number 7 and 8.

(Whereupon, written comments were marked as Exhibit Numbers 7 and 8 for identification.)



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FACILITATOR CATHERINE TICE: Our next commentor is Peter Leigh and our on deck commentor is Cindy Folkers.

peter Leigh: My name is Peter Leigh. I live in Greenbelt, 33 S Ridge Road. And my first comment is I'd like to know will there be notification about the transport of this nuclear material, radioactive material, when it will be passing through various regions throughout the country is my first question.

My second question and point: Do you feel that there will be a need for a complete and prepared full level emergency planning that would be site specific for estimating the potential environment impacts in the event of a full scale emergency, and along with that, will there be some type of trained response team that will be traveling with the nuclear transport because, as the gentleman before me mentioned about local capabilities to handle this type of emergency is something that is questionable probably to most people, including myself, so the real issue is, what type of mobile units will be in place throughout



the entire tour to Nevada that will substantiate the safety in the event of any type of release, but particularly, in the case of a major radioactive release and exposure?

Along those lines, the other area of major concern is the possibility of sabotage. Of course, overwhelmingly at this point with the climate being for what it is, unfortunately, we've just had a recent train wreck that is suspect as being sabotage. We had Oklahoma City, the World Trade Center. This may be just the beginning of what we have yet to see, unfortunately, in the type of climate we live in.

So the major concern from my vantage point is the fact that we're going to have a moving target, that we're going to move from a defensive position where this nuclear material happens to lie in a protected area and now we're going to take it out and move it along hundreds of miles that will provide a great opportunities for terrorists, great opportunities, and I really want that to be put on the record because this is a, as I see it, a real opportunity for terrorism to



really have manifest its hallmark on the United States.

Then along those lines in terms of ramifications to the local area for which most of the people will be fully unaware that this is even crossing their path of their local communities, most of them will not even be aware that this is occurring before them.

And for those that are aware for these established routes, what will be the socioeconomic impacts of this type of revelation for, let's say particularly key points of transit where if I have a home or a business in this vicinity will I be subject to devaluation as a result of having this in my immediate vicinity?

And I suppose the last point I want to raise is, have we looked at other models outside of the ones that were used and exposed to, other options that may be explored and are being used in other countries such as France and other European countries that have a different option than the one present that we're discussing? I'm wondering is there any type of comparative analysis internationally that needs to be explored before we consider the transport of radioactive



material? I think that's an important consideration.

Other than that, I think that's about it.

But the real issue for me, again, I want to reemphasize is the concern that this is a real opportunity for terrorists actions.

BILL FREELAND: Thank you very much for your comments, Mr. Leigh.

remind Mr. Leigh and other people who may have come in after our question and answer session ended that there are Department of Energy representatives available here for the rest of the evening to discuss questions with you, even though our scheduled Q and A is over.

Our next commentor is Cindy Folkers and the on deck commentor is Mary Olson.

CINDY FOLKERS: My name is Cindy Folkers. My address is 11201 Braddock Place, Number 408. I'm a resident of Alexandria, which will become one of the transport routes for irradiated fuel rods from reactors, should the repository at Yucca Mountain be built.

I am a student of environmental science at



Johns Hopkins University and a librarian by profession.

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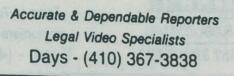
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Many people, including my senator from Virginia, are misinformed as to Yucca Mountain status. It is not the nation's designated permanent repository for high level radioactive waste. Instead, regulations stipulate that Yucca Mountain is to be studied to see if it is even feasible for high level radioactive waste storage. And Congress limited the search for a permanent repository by legislating that only Yucca . Mountain was to be studied. In doing so, they took the power out of the hands of science and the public and gave DOE a ridiculous task to be completed in an unfeasible span of time in order to appease nuclear utilities. Yucca Mountain is to be investigated for its suitability to hold some of the nation's most radioactive substances: irradiated fuel rods from nuclear reactors. If Yucca Mountain had already been deemed technically feasible, we would not be at this hearing. The fact that we are here signifies that there remain many unanswered questions about Yucca Mountain, and indeed, the whole waste disposal process.





Therefore, its status as the permanent waste repository is not respective (sic) of the situation. There are many reasons to reject Yucca Mountain as a permanent high level radioactive waste repository, and although thermal loading is one consideration, there are many other geologic queries which must be answered. The Yucca Mountain climate is arid, but is characterized by high-intensity, short-duration rainstorms occurring in the summer months. This region is currently undergoing crustal expansion and a natural thermal convection, which, in part accounts for faulting, active seismicity and high heat flow which is witnessed by a number of hot springs in the area. In this brief statement I will discuss only three of the myriad of geotechnical concerns surrounding the establishment of this repository: they are certain mineral formation origins, faults, and tritium deposits.

Questions still remain about certain calcite opal mineral formations found almost exclusively in and around the faults at Yucca Mountain. Certain deposits within these formations required high fluid



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temperatures. Such high fluid temperature could only come from upwelling water, not ambient water from the surface such as rainwater. This is evidence of a water solution upwelling from deeper the surface.

why should water entering the planned repository concern us? Water entry is dangerous for three reasons: First, it can carry radionuclides out of the dump and into the environment; second, if enough water would enter the repository where extremely hot water was in storage, it would flash point to corrosive steam, eating away at the waste containers; third, criticality risks go up. Therefore, EIS (Environmental Impact Statement) must consider multiple scenarios for a flooded or wet repository and a full analysis of what impact these conditions would have on waste isolation, radiological release, radiation exposure, geologic stability over time and the list goes on.

The faults themselves need further investigation. Faults often serve as pathways for water and gas, potentially allowing entrance into and exit from the repository. These pathways can allow migration

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of radionuclides out of the repository via water and also outward migration of carbon 14 radioactive gas.

In addition, earthquakes occur along fault
lines, as was demonstrated in June 1992, when a
magnitude 5.5 quake struck an area 20 kilometers
southeast of Yucca Mountain. The resulting seismic
shock caused one million dollars of damage to a DOE
surface facility on the Nevada Test Site, of which Yucca
Mountain is a part. But earthquake damage is not
limited to the earth's surface. During earthquakes the
ground can slip along the fault lines, causing a shift
in the orientation of rock formations under the surface,
where the repository would be.

The result could be a shift in repository contents and perhaps breech of containment, releasing radionuclides from irradiated waste. In addition, more water and gas pathways could open. The planned repository has two faults which cut right through it.

One, Sundance Fault, was only recently discovered and is younger than its sister fault, Ghostdance. Ghostdance Fault is the major fault in a system of faults extending



800 feet over the planned repository surface. In addition, faults within this zone reach down at least 2500. The repository would reside at less than 2000 feet. Therefore, EIS (Environmental Impact Statement) should include analysis of all faults, transport models and earthquake movement to predict release scenarios and impacts.

About one year ago, tritium was discovered in the tuff at Yucca Mountain. The tuff is the rock formation in which DOE wants to build the repository. Tritium is a radioactive isotope that emits beta radiation. This isotope has a short half-life (12.4 years) and is produced either naturally in very small concentrations in the atmosphere or anthropogenically by either detonation of nuclear devices which used tritium in their ignition mechanisms or in nuclear reactors. The tritium was discovered at a depth of 1450 feet in fracture water, some 400 feet below the planned repository. From the concentration of this tritium and its short half life we can conclude the following: The source of the tritium could not be natural atmospheric

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processes, as the concentration is to great, therefore, the source is anthropogenic, (man-made); further, the only transport mechanism by which tritium could reach this depth is water.

Therefore, the only reasonable conclusion is that the tritium came from fallout from one of the nuclear denotations which took place between the late 1940's and 1964, the year of the last above ground detonation. Even if the tritium came from the first detonation that still represents a maximum 50-year travel time to a portion of the tuff which lies below the planned repository. According to DOE 10CFR960 (Department of Energy) citing guidelines for a high-level radioactive waste repository, "A site shall be disqualified if the pre-waste ground water travel time along the fastest pathway is determined to be less than 1000 years." Therefore, this site should, in fact, be disqualified and scoping should focus on the "no action" alternative only.

Finally, Yucca Mountain is not even federal government land. The Treaty of Ruby Valley, 1853, is a



Mountain and the Nevada Test Site is Western Shoshoni land, as it has always been. Further, when the government attempted to buy this land from the Western Shoshoni for the purpose of nuclear bomb testing and other military endeavors the Shoshoni declined to sell. The federal government seized the land, irrespective of this rejection, building the Nevada Test Site and other war facilities. The money that the federal government tried to force upon the Western Shoshoni in exchange for their land sits in escrow. I am ashamed to be associated with a government that handles Native Peoples or any peoples in such a non-democratic fashion.

Therefore, the EIS (Environmental Impact
Statement) must contrast the impact of the repository in
light of this environmental justice issue. Because of
the above considerations and many more which I will
bring forth in my protracted statement to DOE, I believe
that the only action is the "no action" alternative.
This option would "evaluate termination of site
characterization activities at Yucca Mountain and the



continued accumulation of spent nuclear fuel and high level radioactive waste would continue to be managed for the foreseeable future at existing commercial storage sites and DOE (Department of Energy) facilities located in 34 states." An opportunity to speak regarding these issues is the least a democratic society owes its citizens.

independent commission comprised of members not beholden to the nuclear industry. Its purpose: To reevaluate America's failed and highly undemocratic radioactive waste policy, and to include in the discussion all those directly affected by this issue. Thank you for listening and I hope that the DOE (Department of Energy) considers my comments and those of my fellow citizens and taxpayers by incorporating them into any decision regarding management of irradiated waste.

BILL FREELAND: Thank you very much.

FACILITATOR CATHERINE TICE: Our next

commentor is Mary Olson. Our on deck commentor is Keith

Jahoda.



MARY OLSON: Mary Olson, Nuclear Information and Resource Service, 1424 16th Street, Northwest, Suite 601, Washington D.C., a national organization that works with grass-roots community groups nationwide that are concerned with commercial nuclear power and its radioactive waste, and I want to just comment that it's great there are 15 scoping hearings, but I also want to note that there has not been a hearing in states such as Kentucky or Oklahoma or Indiana where people are deeply concerned about transportation and also do not have nuclear power. I think they're under represented in this scope.

I do need to acknowledge two key reasons why
I don't think any of us should be here tonight, and then
I'll go into my comments. I know you're going to go
ahead with this process anyway.

The first is that for some reason all of us seem to think that the Nuclear Waste Policy Act is a law, but the Treaty of Ruby Valley is not, and that's incorrect, and our government, U.S. Government is in violation of its own international courts and we have a

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problem here, and certainly any of this process needs to reflect how the agency is intending to justify that problem and how U.S. Congress is intending to justify that problem.

The second thing is that clearly if we were doing science on the science of waste isolation this site would have been rejected in 1992 rather than the EPA's standards. And again, I understand the problems with Congress, but I want to note that this is not a scoping of an honest waste isolation project.

The two things I want to focus on are the "no action" alternative and transportation, but I do have a few comments on the repository. In terms of "no action" we call that it be fully developed as an option, not just treated as a baseline. We need to have that explored in as great of detail as possible.

In terms of transportation it must be mile-by-mile, route-by-route, no generic analysis. When I saw a regional analysis in the scoping document I mistakenly thought that meant any region. It should -- it should not just mean Nevada.



I also believe the scoping document lists a series of environmental points, and again, I was mistaken. I thought that those would apply to transportation as well as to a repository; they should. In a moment I'll find that list, but I want to proceed with these comments. I'm identify the page number.

Broadly, every radiation exposure carries additional risk and no individual should have to have involuntary or undisclosed exposures. One of the key issues that DOE (Department of Energy) has been trying to deal with is public trust and confidence, and there must be full disclosure and a good solid source of information in this EIS or else that public trust and confidence will be further degraded.

In broadbrush, the things that I would like to see, and people I work with, is ongoing economic analysis of all the different projections with full disclosure of what the economic projections are, specifically in relation to the waste fund, taxpayer sources of money, any other sources of funds that would be used along with each option. And then I'd like to

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see an aggregate estimate on all the extra lines, cost of the program, both repository and transport and "no action" alternatives. These are impacts that the program does not pay for itself, and a statement of who is going to pick up each of these, including health effects, sterilating miscarriage, dynamic impacts over time, non-cancer (sic) and cancer effects, things like loss of tourism and business, loss of property value, lack of distributed capital available to local economies because this whole program perpetuates an industry that centralizes and stratifies our society. Those are all externalized costs.

We would like to see aggregate costs of the programs with precise explication of who funds what, what comes from the waste funds and what comes from the Department of Defense, what come from other DOE budget dollars, and what is insurance coverage; is there any point at which the liability refers to the generators of this waste, then a waste-payers scenario to cover that versus a stockholders scenario, and what about the scenario based on bankruptcies of utilities? Niagara



Mohawk this week threatened to go bankrupt if it doesn't get its merger, so we need an analysis of the waste fund in all of this picture based on insufficient enlistment of utilities.

Again, in broadbrush, we need radiological effects in general at each point along the way, the loading of the containers at the plant sites, all transfer points, transportation, the surface storage, transfers at the repository, any sites along the way in transportation where a shipment might sit for an extended period of time, and along with that should travel review of the history of support and compensation for those who are affected by radiologic exposure due to U.S. Government or private industry, and such a review might cover such groups as uranium miners, TMI victims, human experimentation victims, just a rundown on what kind of compensation and support people have had in the past for radiologic effects. And I think there should be a full disclosure for the fact that any effects that are within exposure guidelines are not eligible for compensation. That has to be clearly stated again and

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again for the public that they are signing onto that.

Some comments on the repository. Need not consider does not mean shall not consider, and I think the Department should take that to heart. There are a lot of things that should be considered in this EIS (Environmental Impact Statement). Expanding the total amount of irradiated fuel that must be dealt with in any eventuality, no matter what we're going to do with it is a major federal action, and in terms of the plant, it's probably a bigger action than digging a hole under Yucca Mountain. Today we are only about one-third of the total of the irradiated fuel that is projected in the number 85,000 metric tons, so your action alternatives are about allowing the continued production of the rest of that fuel; that decision deserves a full analysis.

Into more sacred ground. We have a situation, we don't have a radiation standard right now. We have a recommendation that a standard maybe won't include a population dose, so I'm not talking about a standard, and I will put this out in writing, but I want to quote it out tonight because I think it's very



important that we look at the impact of releases from the repository at the population level, and that impact be in the EIS (Environmental Impact Statement,) and I furthermore invite the EIS (Environmental Impact Statement) to explicate the controversy on so-called low dose by reporting all of the dose response models that are out there from the Wing Report of 1991 in the Journal of American Medical Association, to John Goughmann (phonetic) to any of the quote, "accepted radiation community models," label them accordingly, indicate whether they are only fatal cancer models or whether they include other health effects and present them so that people can see what the full range of the dialogue and the controversy is. I think it would be very appropriate for this EIS (Environmental Impact Statement) to do that.

Then we get into the problem of, all of this is about building a repository, operating a repository and closing a repository. What if we have a problem after we close the repository, I think the EIS should include that. What if there is some event that occurs



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in the first hundred years? Who pays for that and what would it cost? What could be done? I think there should be at least a couple of scenarios developed on that basis. And again, if you had to buy a bond today to cover that cost that's projected say in 2100, a leak of substantial level that was not anticipated, but still I'm asking you to anticipate it, so what would have happened if it happened in 300 or 500 years, what's the bond that you would have to buy today to cover that, and who might have to cover that cost.

And finally, there seems to be three dumps proposed for this site. We aren't really covering it here, but Congress is considering a surface facility, that should be scoped as part of this repository eventually, because it will affect this repository. Secondly, there is every indication that there will have to be a so-called low level waste dump on this site because of the number of times decontamination is mentioned and the number of times alternate waste streams from cleaning up containers and the decommissioning of the site itself. There will be



contamination from these processes, so there will be --

FACILITATOR CATHERINE TICE: You have one minute remaining.

MARY OLSON: Okay. So finally, I think one of the key points here is that the concerns about radiation and the concerns about transportation that you've heard voiced tonight by concerned citizens, the fact that it has to be a mile-by-mile analysis, that we have to look at not only accident possibilities but also just the cost of routine preparedness, all of that has to be in the record of decision as to how it's going to be covered and paid for and who is going to pay for it on a mile-by-mile route-by-route basis, not a single paragraph at the end of some report. That has to be all laid out here.

And finally, I want to submit to the panel tonight some items that include the clipping about the train wreck. I think people nationally are deeply concerned about terrorism, especially people in Oklahoma. And people are becoming so concerned about the transportation issue locally that they are passing

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resolutions opposing the bills that are in Congress, and I don't have all of the resolutions of communities that I am aware of, but I have three here tonight that I would like to submit.

FACILITATOR CATHERINE TICE: Thank you. You can give those to Mr. Freeland, if you wish.

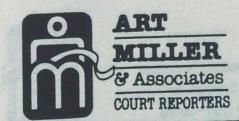
BILL FREELAND: For the record, the comments have been submitted and we'll mark those Number 9.

(Whereupon, written comments were marked as Exhibit Number 9 for identification.)

FACILITATOR CATHERINE TICE: Our next commentor is Keith Jahoda.

KEITH JAHODA: I'm Keith Jahoda. I live at 45 C Ridge Road in Greenbelt. I'm here as a citizen. I was trained as a physicist. I'd like to complement you. The Maryland DNR has never bothered to ask how to pronounce my last name. I know that the DOE listens on some things and I trust you'll do that throughout the process.

As a citizen in Greenbelt I live less than a mile from an interstate highway, so I'll be focusing on



some issues that surround transportation. I suspect that the other issues have been covered more heavily in Nevada.

As a physicist, though, I want to share some observations about problem solving, calculations, estimates, operations are easy to do for things that are routine. Calculations and estimates are easy to do for things that are predicted. Calculations and estimates are easy to do for things which are easy to imagine. So the challenge for you as you prepare this Environmental Impact Statement is be imaginative, be thorough, give credence to the worst case scenarios. This is important, even if those things have a small chance of happening it's important to give a thorough analysis because when you're evaluating the net impact, a small probability times a large accident is something that needs to be considered.

And let me just give you an example that everybody I think will remember. Nine years ago there was a terrible accident with the space shuttle which had to do with a simple item having to do with O rings and



their temperature dependence, and I stress the word that it was simple because everybody found out and citizens all over the country understood what the problem was immediately once there had been an investigation and once the cause of that accident had been determined. The point is it was a very complicated technical system that involved many simple parts, and the interaction of all of those things is admittedly a difficult thing to foresee, and if people had foreseen this particular small problem things would have been different on that occasion.

Statement is to be imaginative and don't leave things out. Maps of the country indicate that the power plants, and hence, the spent nuclear fuel are concentrated in areas of the country where there's a high population density. Yucca Mountain is in an area where there's a low population density, and this is not an accident. It means that although Yucca Mountain was chosen for being attractive from the point of view of having a low population density, the act of transporting



fuel to that point affects everybody. It affects all of the people in the population centers through which fuel has to be transported one way or another. So it is really a national study that you're setting out to do.

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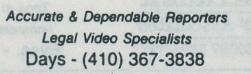
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When you do this, this national study, you'll already be considering all of the obvious things like truck-car interactions, train-car interactions at various crossings, the possibility of sabotage, the question of whether these trucks are attractive targets or not. Here are some other things that might not be quite so obvious, simple items like bookkeeping. When you compare the "no action" alternative to any of the transportation alternatives consider the question of where -- consider the question of your knowledge of where all of the spent fuel is, and with that knowledge on a moment-by-moment basis how you'll be able to respond to the different kinds of problems if there is the possibility of sabotage, if there's the possibility of random accident, if there's the possibility of transportation accidents, will you have the knowledge of where everything is in sufficient detail to ensure that





trained personnel are on hand to lead the effort in taking care of any accident that might happen either in the "no action" or any of the transportation actions?

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As you consider the transportation matters also consider the questions of environmental justice, and this may take on additional twists beyond the usual meaning of that. Often people say environmental justice when they're trying to make the point that undesirable pieces of the infrastructure are being put in poor neighborhoods. Well, maybe that's not a traditional issue for a site in a low population density area like Yucca Mountain. However, roads and train tracks also are concentrated in areas which spread the risk out uniformly across large parts of the country, so that needs to be considered, and then you get into an economic issue which is under any of the transportation schemes, who bears the financial risk of cleaning up after any potential accidents; is that in fact the tax payers; is that in fact the rate payers of the utilities; is that the stock holders of the utilities? And while I know none of these things have been settled



it's easy to believe that you get a quite different answer if you follow the "no action" alternative or if you follow the transportation action.

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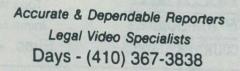
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If the material sits near the power plants where it's created it's much more likely that the financial obligations created by unforeseen accidents will fall on either the stockholders or the rate payers. If the material is being transported as part of a government disposal problem it's much more likely that the cost will fall on taxpayers, and this is something that will come out in an environment opportunity cost. Suppose there is an accident, suppose there is a need to invest a lot of money to mitigate and to clean up after something? And don't doubt for a moment that people will think that that's a good expenditure and that we ought to be spending tax-funded dollars on that. However, in the modern era of limited government budgets, if we do have the necessity of spending money in a clean up or mitigation, where will that come from? Will that be taken out of other environmental projects, other studies, other clean ups, and what's the





environmental opportunity cost in things that are not done as a consequence of money that has to be spent on possible actions associated with this?

It's possible that I'm stretching the point here, but it's related to the point that we aren't discussing the environmental impact at Yucca Mountain. We're discussing the environmental impact of a distributed problem. It's distributed because the power plants are distributed and because the transportation network is distributed, and therefore, I think it's important when you're being imaginative and looking at the worst case scenarios to be imaginative and look forward and find out what the financial costs direct and the environmental opportunity cost is.

Thank you for the opportunity to participate.

BILL FREELAND: Thank you very much for your comments.

FACILITATOR CATHERINE TICE: Our next registered commentor this evening is Clara Kuehn.

CLARA KUEHN: Thank you very much for the opportunity to speak to you here tonight.



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FACILITATOR CATHERINE TICE: Could we get you to state your name and address for the record, please, before you begin?

CLARA KUEHN: My name is Clara Kuehn. I'm also a resident of Greenbelt, Maryland and I'm here as a private citizen who is concerned. I too was trained as a physicist. As a matter of fact, the Department of Energy paid for my Ph.D., and I'm also trained as an attorney.

In determining the scope of the transportation issues to be addressed in the Environmental Impact Statement I'm particularly concerned that the impact for the entire transportation process from the present site of the waste, where it is now, to the repository be addressed together. In other words, that the transportation process not be viewed and dismissed in fragments. That is, that the whole, the impact of the trip from the beginning to the end be analyzed together.

I'm also concerned about the level of detail for the transportation impact studies, and the reason



that I'm concentrating on transportation is, as

Mr. Stevens explained, Greenbelt is at the intersection

of the Capital Beltway and the Parkway, both of which

are major inner cities thoroughfares and are very close

to Interstate 95, and we have the CSX tracks going down

to Union Station from where we are.

For a vehicle, both the routine transport and accident scenarios will probably be analyzed. In addressing the impacts associated with an accident scenario it's clear that the quality of the emergency response, and therefore, the associated environmental impact and economic impact associated with clean ups will depend on that emergency response quality, and the quality of the emergency response depends on in what jurisdiction the impacted property lies.

where we are, for instance, there is a patchwork of jurisdiction, federal and state, private and public. Not simply, for example, if the route ran down the Baltimore Washington parkway it would be insufficient to say this land is under the jurisdiction of the Department of Interior, and therefore, we know



who the response team would be along that route. First you have to consider the size of the expected space impact, and then you have to look at the jurisdiction of the various parcels of property that would be present within that impacted area, and it's a very complicated task, but it's important to analyze all of the way along the route who is in charge because that would really affect the size of the associated environmental impacts from an accident.

In considering the economic impacts in an accident scenario the patchwork of ownership and use of land along particular transportation routes may also need to be considered in a similar way, and this is because the economic impact varies with land ownership. For example, does a publically owned wilderness area deserve a lesser clean up standard than a privately . owned residential area? That's probably true, and that means that land ownership along the entire route would have to be analyzed and be fed back into the accident scenario. And it's a very complicated task but it's clear that a fair assessment of significant



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environmental impacts would have to consider this in some detail.

And finally, I'm also very concerned about how cumulative impacts in the transportation analysis would be handled. This is because the "no action" alternative has no transportation, therefore, it has a zero baseline for impact. That means that even the tiniest impact should all be included in the analysis and accumulated as one sum before it is decided whether or not those impacts are significant or not.

Lots of times if the alternative, even in "no action" alternative has some ongoing impact you can dismiss some of those really small ones, in this case there is really zero since there is a no transportation.

about possible connected actions, and that is, it's pretty apparent to me that the amount of waste to be shipped is critical to the evaluation of the environmental transportation connected impact over the life of the repository, and it's also clear to me that the amount of waste that's going to be shipped and that,



therefore, goes right into the amount of impact that you analyze is going to depend on the fact that Yucca Mountain opens and that waste can be transported. For example, in at least one upper mid-western state the state has said that if the waste isn't shipped off the reactor site the reactor site will have to shut down. If you can't ship then you can't continue to generate, so I hope that the fact that there may be a continued impact would be considered.

And I have one final point, and that is over the scope of the alternatives that were considered you identified the rail alternative and the road alternative, and I would point out that some, at least, and maybe a lot of the routine impact are going to be correlated with the amount of time that's actually spent in transit. And I would also point out that that may be true for the accidental alternatives, the longer in transit the more likely an accident. Consequently, I would think that any kind of rapid transport alternative would really receive consideration, and in addition, the impact associated with accidents under all of the

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alternative scenarios that you evaluate about accidents would really be reduced with a transport alternative that was really safe, so I would think we would be looking at safe fast modes of transport.

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So I was very surprised that you didn't consider the alternative of shipment by air, and the reason for this I think it really is true that shipping by air is both faster and safest on a per mile basis, and I think it's surprising that it wasn't considered.

BILL FREELAND: Thank you, Ms. Kuehn.

other commentors? We do have one person on the wait-list. However, do we have any person in the audience who has not made a comment this evening and would like to make one? Go ahead.

RICHARD FARLEY: Thank you. My name is C.
Richard Farley, Jr. I live in Frostburg, Maryland. I'm
going to read a statement that I've put together here.

The Yucca Mountain Repository Project and the associated high level radioactive waste transportation studies are another in a long history of politically



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driven initiatives to shift the responsibilities and the cost for nuclear policy errors a generation ago to the American public. In the rush to capitalize on the military potential and strategic requirements of atomic weaponry in the late 1940s and 1950s a propaganda campaign was begun to sell the American public on so-called peaceful uses of nuclear power with promises of electrical energy in our homes and business too cheap to meter, as one former Atomic Energy Commission member claimed at the time, but without revisiting the already well-defined issues relating to the public subsidy of commercial nuclear power of which this current process is but the latest initiative, we need to recognize that all of us are here, some of us not for the first time, because of yet another Congressional and executive branch capitulation to the profit-based needs of the nuclear complex who desperately want spent nuclear fuel off their hands.

The imperative for these atomic constituents and their supporter industries is great as defense spending and nuclear weapons production soon may be



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impacted by changes in the global military balance and technological or doctrinal changes in American weapons and technical systems, development and deployments, such as the current competition by advocates of nonlethal and optical systems for research funding share.

bankruptcy of the American nuclear power program as it is currently configured. We all have plenty of time to watch these doctrinal and policy fights mature and produce winners, but as these things do happen we ought not be seduced and deluded by the Nuclear Waste Policy Act and Congressional vulnerability to pressures from the nuclear utility industry, defense contractors and construction firms for whom the massive tunneling associated with the Yucca Mountain site experiment is profitable make work.

In that vein we also should remain cognizant that many people associated with this project, including some of the board members of SAIC are deeply embedded with a powerful industrial and financial interest who have profited and which continue to profit from our

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nation's bizarre nuclear policies, and the apparent fascination we, as a society, have with using old technology and self-deluding assumptions to solve tomorrow's problems.

Mountain shows, it is sure that the DOE and military contractors will be the primary beneficiaries. SAIC, Bechtel, many others which have developed unique capabilities in project management and technology development will do whatever they can to keep all of these balls in the air, to keep their people employed and their profit centers functioning. So let us not fall too deeply too early in the process into familiar but arcane debates about safety, radiation health and whether casks are safe and routes are optimum.

with newer technologies and developments in materials coming to the threshold of reality with refreshing regularity we can predict that by the time we have proceeded perhaps halfway along your time line, the very idea of burying hot waste in Yucca Mountain will appear to the newest American voters in the year 2010,



who are currently 3 years old, as a desperate and unsophisticated political operation that unfortunately remains.

But your commitment to public input is commendable and something we did not always find from the DOE (Department of Energy), so thank you very much.

BILL FREELAND: Thank you for your comments.

FACILITATOR CATHERINE TICE: Is there anyone else in the audience who hasn't made a comment who would like to this evening? We do have one person on the wait-list to make a comment this evening, Eileen Supko.

FILEEN SUPKO: God evening, I'm Eileen Supko from Energy Sources International, a Washington D.C. based consulting firm. We deal primarily in nuclear fuel cycle issues and I'm providing comments this evening on behalf of the Nuclear Energy Institute.

I spend most of my time working on spent fuel management transportation and disposal issues for utilities with nuclear reactors and nuclear industry organizations.

As many of you know, the U.S. has a total of



109 nuclear reactors which supply approximately 20 percent of our nation's electricity. Nuclear power plays a vital role in our nation's energy mix. U.S. electricity demand is expected to grow at a rate of 2 percent per year by the year 2000. By that time approximately 200 large electricity plants will be needed to meet that growth.

In order for the U.S. to meet the Clinton administration's Climate Change Action Plan, which is designed to limit the production of carbon dioxide, the chief greenhouse gas, nuclear power must continue to play a vital role in our energy mix in the future, since nuclear power does not produce any greenhouse gases because it does not burn fossil fuels.

In order to continue with the benefits from the continued use of nuclear power the United States must show progress toward the development of a federal waste management system for the storage, transportation and disposal of spent nuclear fuel from commercial reactors. Utility rate payers pay one-tenth of a cent for every kilowatt hour of electricity purchased from



nuclear generated electricity for the disposal of that waste.

Since 1983 11.6 billion dollars has been collected from rate payers. The Department of Energy has spent approximately 4.6 billion dollars of that money collected. A recent Department of Energy estimate calculated that the life cycle cost of the program to be approximately 33 billion dollars. Further program delays would result in the increase in cost, not just to the DOE system, but also to utilities for reactor spent fuel storage.

Do you wish to consider these costs and its "no action" alternative assessment? Recent progress by DOE (Department of Energy) in the characterization of the Yucca Mountain site, including its operation of the tunnel boring machine and construction of exploratory studies facility and initiation of this Environmental Impact Statement process are important steps forward for the United States toward the permanent disposal of spent nuclear fuel.

As we've heard today, many citizens are

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concerned with the transportation of spent nuclear fuel, and indeed, transportation will be one of the key elements of the waste management system. Transportation of spent nuclear fuel is not a new concept, and the casks that will be used to transport spent nuclear fuel will not be new technology. These casks will be based on existing cask technologies that are used worldwide.

The U.S. nuclear industry has made more than 2,000 shipments of spent nuclear fuel during the past 30 years in a safe and environmentally responsible manner.

Transportation cask designs are robust and approved by the Nuclear Regulatory Commission in accordance with federal regulations following rigorous cask design, analysis and cask testing. Cask analysis and testing ensures that the cask designs can withstand postulated transportation accidents. Testing includes such things as a 30 foot cask drop test.

There was some discussion this evening regarding security and possible terrorist actions including the train wreck. I read in the Washington Post yesterday morning that the train wreck was



described as the trains following a 30 foot fall into a desert surface. This is an example of one of the types of tests that they would drop the casks from 30 feet to a flat unyielding surface. The casks are indeed designed to withstand this type of accident.

I would also like to make the point that spent nuclear fuel is a solid material; it's hardware. I encourage those of you who do not know what it looks like, there's a model in the display room. Please go and look at it. Plus spent fuel is highly radioactive and must, therefore, be isolated since it is a solid material and not a liquid or gas it cannot leak or spill in the unlikely event of a transportation accidents.

The requirements of the Department of
Transportation and Nuclear Regulatory Commission for
radioactive radioactive material's packaging ensure that
even in the unlikely event of a serious accident,
radioactive contents of the package will not cause
public health or environmental problems. This should be
considered by the Department of Energy as part of its
EIS (Environmental Impact Statement) in assessing

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credible accident scenarios and consequences.

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Regarding the scope of the Environmental Impact Statement, the Department of Energy's plan to follow the Environmental Impact Statement road map as described by Wendy Dixon earlier and laid out in the Nuclear Waste Policy Act by Congress is appropriate.

I've encouraged the Department of Energy to continue its progress in the Yucca Mountain site characterization. The Environmental Impact Statement for the repository should include credible alternatives and scenarios for transportation that will contribute to the development of a safe system. Scenarios that have no safety benefits and that will only serve to delay the program further should be avoided.

It's time that we as a nation look for solutions to nuclear waste disposal and not waste to further delay this program. Leaving spent fuel at more than 70 reactor sites around the country, which would be the result of a "no action" alternative is not a solution. We have benefited from safe nuclear energy and we should comment to dealing with nuclear waste in



the near term, and not leave it to our children and grandchildren. This Environmental Impact Statement process is a step in that direction, to help DOE and the nation make informed decisions related to spent fuel transportation and disposal while addressing concerns of its citizens. Thank you.

BILL FREELAND: Thank you very much for your comments.

Ms. Olson request an additional 10 minutes for comments.

Did I see a hand at the back of the room? Yes,

Mr. Stevens you can follow Ms. Olson.

MARY OLSON: I'll try to be brief, but I wasn't aware of the ten minutes until I arrived.

Earlier I mentioned a list of things in the scoping document, I was referring to page 18 and 19 where there's a list of items that apparently will be applied to the repository scoping. They should also be applied to transportation, and this especially includes the environmental justice angle. There should be a full analysis of the environmental justice issues as issues

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as it pertains to the movement of irradiated fuel, as well as socioeconomic conditions, pollution prevention, soil, water, air resources, biological resources, cultural resources, cumulative impacts, potential irreversibility of resources, waste isolation, criticality. All of that applies no matter where the irradiated fuel is and it should be analyzed.

I have several other brief comments on transportation. In the EIS (Environmental Impact Statement) there needs to be transparency on the assumptions that are used in projecting accidents. The lay public should be able to understand what assumptions were made and how those projections were made. If there are different scenarios, then again, that transparency needs to go with each one.

There was a comment made earlier about emergency response. I think it should be considered that emergency response if not trained or prepared might actually increase radiation exposures. Earlier the staff said they don't take credit for that. Maybe they should consider that somebody that isn't prepared could



actually make the matter worse.

There's been talk about the number of shipments that have been made to date. The EIS (Environmental Impact Statement) should include a very clear chart, table, whatever, comparing actual shipments to date including the amount of material that was shipped and the distance it was shipped compared to the projected shipments, numbers and distance.

Along with the analysis of transportation routes there should be special attention given to transportation corridors in terms of equity issues not only race and economic status but also in Native American Nations and inner city issues, and the whole question of states that have nuclear power versus states that have none, and the whole question of sort of categorically the east coast versus the west coast. Those are all equity issues that exist within our society and it should be considered in transportation.

All of these impacts need to be projected and cumulated over the 30 to 50 years of shipping. It is not sufficient to look at an impact in a given year on a



route. You have to look at that route being impacted in that way for the entire length of the shipping campaign which could be 30 to 50 years according to DOE (Department of Energy) documents.

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There's lots of concern from people about in-transit locations where shipments must be stopped for inter-modal transfer or sit on a rail side line for periods of time. What are the security options for that? What are the radiological protections for people in the area; who has the local jurisdiction and authority over that; how is that regulated? That should be included.

I hear that barges are a possibility. It was a footnote in the scoping documents that should not be a footnote. That should be a full-fledged element if the DOE (Department of Energy) is going to consider using water transport. People need to see that fully analyzed. All of this needs to not only be in the EIS, but in the record of decision.

A couple quick comments about the "no action" alternative. Nuclear information and Resource Service



calls for the "no action" alternative because it is most compatible with what we are truly calling for which is an independent review of all of the nation's radioactive waste policies and programs. We don't think that the classification of radioactive waste currently reflects the true storage/ship issues that we're faced with, and that has to be addressed before we can truly talk about what it is we're trying to isolate and how it is reasonable to isolate it.

So until we know what we're doing we certainly shouldn't move it. In scoping out the "no action" alternative we need to look closely at what the real issues are at the reactor sites, and one of those that should be looked at is how you unload a cask once it has been loaded? Apparently the industry does not yet know how to do this. It's an important thing to know how to do if you're going to load all of this stuff in a cask. You should know how to unload it. You should know how to re-containerize at the sites and at the repository site.

We need to know about all of the containment



options. What are the kinds of storage and containment that optimize the condition of the fuel, to optimize the length of time that the container is viable. We need to think about weatherization and weather protection of these items so that they're not sitting out in the freeze/thaw. How to maximize containment of this material. We should also look at terrorist issues at the sites.

Finally, the "no action" alternative says
that the reactors will close. We want to see a list of
the closure dates. Come on, guys, we haven't seen a
reactor close yet because it ran out of pool space, and
most of them own a lot of property. We want a
case-by-case, site-by-site inventory of the pool fill
dates and how long it will take to fill that acreage and
when the plant will close, and if that's not what's
going to happen then let's be honest about it and not
put it in there.

So you know, we need a full scope on the "no action" alternative and what it really means to the industry, and what other options are for storage at



those sites. There should be an explication of state and local requirements for on-site storage and a profile of what's happened, because we have a number of sites within the year approaching, a dozen, that are currently using storage technologies beyond the pool.

Finally, the "no action" alternative truly has the lowest greenhouse gases. We can't say transportation is going to have no greenhouse gases, nor can we say that nuclear power has no greenhouse gases because the whole front end of the fuel cycle is intensively filled with greenhouse gas production. So if these plants are going to close under "no action" alternative that is truly a no greenhouse gas alternative. We support that.

Finally, we are leaving this waste to our grandchildren, and 12,000 human generations no matter where it is, so we'd better be sure it is in the right place.

BILL FREELAND: Thank you, again.

FACILITATOR CATHERINE TICE: Mr. Stevens.

RAY STEVENS: Ray Stevens from Greenbelt,



Maryland. I only have a couple things that I jotted down. As I said before, I was sort of winging it. But some things came up as people were talking that I'm glad to have the opportunity to come back on.

One of them, and it was brought out by the representative from the nuclear industry is that there's no indication that the nuclear power industry is going to stop, so the idea that the transportation is going to stop in 30 or 50 years is bogus. The transportation will go on forever as long as there is a nuclear power industry, and I think that the issues surrounding transportation should reflect this and not try to pretend that there is a time limit to this, so that if there's a little bit of danger we can factor time into it and say, but in 30 years it won't happen, because the transportation will be the same and I know that the Yucca Mountain Impact Statement I guess shouldn't talk about this, but when you fill up Yucca Mountain and close it where is the next hole going to be. And wherever it is the trucks will continue to roll.

Another thing, speaking of the trucks, from



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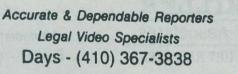
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my hearing on the Wipp thing, this transportation is not going to be by the government. It's going to be on a bid basis with private industry, trucking companies, train companies. Who is going to control this; who is going to be responsible for monitoring these civilian trucking companies? How are the bids going to go out; is it just going to be lowest bid, the guy that's got a truck that's running? Is it going to be a big trucking company? Is the Department of Energy going to continue to be involved in this level? Will it be the Department of Transportation; will it be the Maryland Motor Vehicle Administration? Who licenses the trucks as they're coming out of Maryland, and I don't know that anyone is talking about that.

But basically you're going to unleash a bunch of people that you give a bid out on to truck nuclear waste however they will, as far as I can tell, unless something comes up in this Impact Statement so that we know really who is going it be responsible and how this is going to be handled.

And the last thing, I think when you start





talking about social problems and the impact on society that it's discouraging for all of us, including you, that there are not many people here, but there will be more. We're here and we will gather some strength, and take this into account that you're going to generate a lot of public reaction. It's going to be negative and it is going to be one more issue in the many issues of a large group of the public unhappy about their government. And I think that that's a real social impact that you ought to talk about and deal with, and I know that if you look into other impact statements on issues like this and other big issues that involve the environment you'll be able to follow the history and get some of the information about what is likely to happen as this process continues, and I wish you would consider that while you're doing your statements. Thank you.

BILL FREELAND: Thank you very much, and we do encourage your continued participation in the process.

FACILITATOR CATHERINE TICE: Do we have anyone else in the audience this evening who would like



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to make a comment? I don't see any hands, so at this time let the record show that we have no more commentors who are registered or have indicated a desire to make a comment.

We will be here until 10 p.m. to take comments. However, at this time we'll adjourn for 30 minutes while waiting for additional commentors. We'll go off the record until 9:45.

(Recess.)

FACILITATOR CATHERINE TICE: It's now 9:45.

Let the record show that we are reconvening the evening scoping meeting session for the Yucca Mountain Environmental Impact Statement. Do we have any additional commentors this evening? I don't see any hands and we did not have anyone sign up to comment, so at this time we will adjourn for 15 minutes until 10 o'clock and at that time we will adjourn this evening meeting.

BILL FREELAND: Per Bill Freeland, there is no number 6 submitted in the Baltimore meetings.



(Recess.)

reconvene this evening's scoping meeting in order to formerly adjourn it with no commentors at this time and it is 10 o'clock, so let the record show that this meeting is now formally closed. I'd like to thank everyone for their participation. We had some (Whereupon, the Environmental Impact

Statement Scoping Meeting was concluded at 10:00 p.m..)

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27th day of October, 1995

1	STATE OF MARTHAND
2	COUNTY OF BALTIMORE
3	I, Linda A. Crockett, Notary Public of the
4	State of Maryland, do hereby certify that the within
5	named personally appeared before me at the time and
6	place herein set out.
7	I further certify that the Environmental
8	Impact Statement Scoping Meeting was recorded
9	stenographically by me and that this is a true record of
10	the proceedings.
11	I further certify that I am not of counsel to
12	any of the parties, nor in any way related to any of the
L3	parties, nor in any way interested in the outcome of
14	this action.
.5	As witness my hand and notarial seal this
.6	27th day of October, 1995.
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1	Commission expires: 12/7/96 Linda A Chackett



LAWYER'S NOTES

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