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Public comment to all Board members of the U.S. NWTRB on the Jan 24, 2007, Winter Board Meeting Transcript (meeting held in Las Vegas)

Page 110-111: (1) I am pleased that the Board has written a letter in response to the corrosion workshop with concern that the “stifling and arrest work may in fact be more an artifact of a particular laboratory experiment, rather than actually representative of conditions in the repository.” Good. Apparently, Tom Devine at Berkeley has put together an experiment “watching the evaluation of the passive film over time”, I hope the Board will keep informed on current results of this experiment and keep questioning on this issue – as the passive layer is of utmost importance. As it says here, “The literature on potential stifling and arrest mechanisms is considerably thinner”. We of the public need to know that there is enough actual testing here to confirm what now appears to be “assumptions” based on little technical data in this area.

The whole first section of this transcript talks a lot about meeting the licensing deadline – new faces, new incentives, new – “cultural” behavior, etc. – as if everything is going to be better on the fast track with new people – yet an admission was made that it takes new people a long time to get acclimated into the history of everything done before they arrived on the scene. New people may well get things done quicker, but as we all well know, somebody in the program for 30 years usually understands where it came from and how it got to where it is now. Experience is valuable in workers too.

(2) With concerns about infiltration and the conflicting results of the chlorine findings in different tests from different groups, it appears that there are still unknowns here, and until that is all resolved, you can’t really evaluate moisture in contact with the metal surfaces of the waste package. I just don’t see how licensing application can be leaving some issues open-ended. It reminds me of our vendor’s idea in Wisconsin – get the design NRC certified first – and then make changes later – (they didn’t even know how to unload the cask!) That’s no way to build public confidence. If the licensing application needs to wait for time to do experiments – then let’s wait. I worry that the new OCRWM director is so schedule oriented, that the whole program is being restructured with the date as the main item of importance. “Haste makes waste” – an old saying – but in nuclear waste – very worrisome to me and others in the public watching these procedures carefully.

Pages 114&115: (3) If I understand this right, “SAM” is a spray coating being tested on a “steel sewer pipe with a welded cover” at three different spray houses. I hope the Board follows results of this carefully and proposes other testing, especially materials interactions testing for any such coating. You certainly know the coating problems on the V5C-24 in Wisconsin by now.

(4) Simulated closure welds – as you know, welds are a big concern of mine since we had so many problems with them before. I think a full-scale development should be recommended. If

you don't test the real thing, you won't see all the problems. I'm interested in the Boards input on a full scale-testing program – over time – for a final cask design – before a license application for the repository is made. This whole business of spending 30 years on the repository issues and then ramming the cask through a “fast track” at the end (to meet a deadline) is going to have problems when the real thing is used. Please have some input on this. This is no place to cut costs now nor to hurry.

Page 117: (5) Backfill creating a “thermal blanket” around the package is of great interest. Will “cobble sized” material remain “cobble sized” over time? How do you know? This needs a lot of brainstorming! And “corrosion performance on the package associated with backfill” can really create some materials interactions that weren't expected. We don't want surprises when the drifts are closed. We need to study this more before licensing. These details may be all important – even more important than all the studies and money spent on natural barriers of the mountain all these years. Let's not cut short the studies on what now has become the main protective agent = the cask itself, and how it reacts to materials around it over time.

(6) It is just plain wrong (and seemingly deceptive) that the Board was not invited to meetings on amorphous metals, nor sent reprints of published papers. It is essential that the Board be currently informed. If this is not done, then the public is concerned that there are things DOE's is purposely keeping the Board from reviewing or questioning. Actually I would wonder if that is illegal in essence!

Page 122: (7) Thank you Dr. Latinision for being concerned about the “breather” in testing when I agree wholeheartedly that, as you said, “there's no assurance whatever that the corrosion behavior you see in Environment A is going to be anything like what you might expect with deliquescent dusts or seepage water”. It does need to be tested now.

Pages 126-127: (8) Thank you Dr. Kadak for your comment, you said that Mr. Weagle “made a comment that he didn't think the S&T program was going to be needed for the license application.” You suggested that “perhaps he rethink that assumption”. I agree! And any reports on silica-based cements as well as in-drift vapor transport need to be sent to the Board. All these final things can't be left until after licensing. They must be part of the application.

Page 134: (9) “We have an expectation that many of the canisters that we will receive will be hotter than the current emplacement scenario would allow for. So, the aging pad is to accommodate that”. I question the legality of this statement by DOE. If they do this – that is storage not aging. And you can be sure that if hotter fuel loads than necessary are allowed on our rails and road-ways, that proposes an unnecessary public hazard. Spent fuel canisters should not be allowed in transport until the load is acceptable to be put in the drifts. There will probably be a backup, just because of problems at the mountain in putting fuel in or because of defective canisters, whatever. There will be “growing pains” at first, for sure, and problems unexpected will slow things up. That is what “aging” pads are for, and one year certainly should be the limit a canister can “age” in Nevada. Otherwise you will have utilities sending whatever they want to get rid of first and just leave old casks on their own pads and not unload them at the utility to put in TAD'S canisters. The scheduling of loading and unloading cask at a nuclear plant will be tight, what with regular and unexpected outages etc. Plants are aging, pools are aging, and now

new plants are proposed when we don't even know what to do with the pile up of waste from all the nuclear facilities we already have. Nobody wants to even mention a second repository — that should be discussed. Let's not hide our heads in the sand again. Nevada, by law, is not to be a storage site, yet that is what looks like DOE is going to try to do. Considering Wisconsin was on the hit list for a repository in our Wolf River Basin and granite studies are ongoing in Canada, I, as well as others in Wisconsin, are concerned when a repository site also becomes a storage site.

(10) The handling of the spent fuel sounds easy on paper, but from all the concerns at Pt. Beach — our plant in Wisconsin — it's not as easy as it sounds. "Up-ending" a cask is a process that can do surface damage. Air pallets are a risk — they were not used here — we had a transfer cask with doors that open at the bottom. A "grapple" to pull the canister up into the shielding canister transfer machine needs a clear definition as to how every detail works, and needs to be carefully tested. Once again surface defects can happen with grapples lowering the canister into the waste package. Then the cask is rotated to a horizontal position to this "tongue" or moveable bedplate to be picked by the "TEV" for transport and emplacement. Surface imperfections will be injected then, so it says. A lot of handling for a passive layer that is oh so important! What imperfections are allowable? How tested? And I would think that, at first, DOE has to carefully check a few empty casks in emplacement all the way to the drift emplacement to see what surface imperfections result from that emplacement procedure: It does no good to have the passive layer checked before it goes in the mountain and then wreck it taking it into the drift at the end. How will this be tested? Please ask.

Page 143: (11) Mr. Harrington makes it sound "oh, so simple" He says "we would put an empty TAD canister into the pool, and then transfer from the transportation cask or the non-disposable canister into the TAD. However, who said that the contents of what you are emptying will fit into the TAD? For example, the VSC-24 has 24 assemblies. If that canister is NRC certified for transport (which I understand it's trying for) then if TAD only holds 21, where do you put the extra three? And what about the differences in CRUD and whatever from all the different reactor pools (they all have differing chemicals in them) coming off in the repository pool? (You are rewetting fuel that has been dry a long time, remember — what can happen here?) I think some creative thinking is in order looking at each level of movement of the spent fuel from say Pt. Beach pool — or from the pad — and just what can happen. What do you do with the empty canister from Pt. Beach for example — is their room poolside? Where does it go then? How much low-level waste can you store at Yucca at the surface? All these containers can't be reused can they? So instead of the utility taking care of these, now DOE will have these empty contaminated containers in Nevada. Has there been a license for a low-level waste site at Yucca Mountain? On the surface? Or will you put all the contaminated containers in the Mountain? This has to be in the plan now. Ask about this please. (Sorry I see now at the end of this transcript page that the pool will have aging racks for the extra assemblies — however, I feel that here again you could have defective assemblies shipped, then what? Can DOE send them back to the utilities? I doubt it — so what will be done with any thing that doesn't fit in a TAD basket slot or whatever?)

Page 144: * I have decided to enclose my comments and questions on DOE/RW-0585 "Preliminary Transportation, Aging and Disposal canister system performance specifications (Rev A). I did not send these to DOE, but hope you have a more recent version than this (Rev

A) and may be able to ask some of these questions. The lifting ring design concerned me – looks like a grappling “jaw” will engage it at three points. What do you think of this lifting system? Is it in the final design? And I really wonder at that system of a “hold down” and “keeper clips” to provide protection for a cask to remain upright on the pad. It references a “hold down plate” and “steel embedment” flush with the pad. I’ve read a lot of cask design descriptions and designs for lifts and transport and pads etc. in the past, but I have never come across such a system as described in this document. The cask itself should be robust enough to remain upright shouldn’t it? Why would all these implements be necessary any place? I hope you read this DOE document and any further revisions as it looks like when it comes to the “real thing” and how it “really works in detail”, they are just like Sierra Nuclear – sounds simple on paper – but they really don’t know how it actually will work at all. Way too vague in many areas!

(12) I find it very disturbing that DOE plans to mainly take fuel from the pools and that they will allow hotter loads in transport and will allow hotter cask loads at the ends of the drifts (assuming the rock mass absorb the heat.) MPC’s failed because there was a fear of the issues of the condition of the spent fuel after storage and transport and if that same container could be used for disposal without checking the contents. It appears that DOE now feels that MPC (or TAD) is now ok just because they don’t plan to check the contents. Why? This certainly isn’t acceptable to me now anymore than it was in the 90’s. And if DOE thinks that the contract queue won’t be a problem with the utilities trading places, I think they are wrong. “Oldest fuel first” was decided because it protects the public by having lower radiation in transport casks going all across the country for years and years. The fuel in casks at utility ISFSIs should go to a repository first. Common sense dictates that the less hot the fuel – less radiation – the safer it is to handle at utilities, at the transport level – (in accidents near the public on our rail and roads) and in Nevada. To allow anything but the oldest fuel (already in dry storage at many plants) to move first would put the public at unnecessary risk and is just plain wrong. Would it even be legal?

Page 185: (13) I think Mr. Kout’s is overly optimistic to expect to “penetrate” the market and “incentivize” the utilizes to do as he assumes, or even get the TADs properly tested and built on such a fast track schedule. And even to consider putting canisters (like the RSC-24 at Pt. Beach), inside a TAD and disposing it that way is wrong. That design was bad in the first place and for storage only. Now I understand they are trying to get it certified for transport and so I suppose eventually they hope to never have to check the contents, or unload any of them, and certify them for disposal too! If that is done, then the whole thing is based on an unknown – you don’t know what is really inside that VSC-24 (or any other cask on pads all these years at utilities). That spent fuel has been in a container in high heat and freezing temperatures on the pad, it has been wetted and dried, and bounced about in handling at the plant – and then, maybe, on a trip all across the country and handled again in Nevada – upended several times to vertical and horizontal positions. How can the public have any confidence in the contents being what a computer says it should be for final disposal?

Why doesn’t anybody want to face this blatant defect in their plan? Are they afraid of what they might find?

Page 191: (14) “Mr. Kouts says repeatedly” “I don’t see us going through a demonstration phase.” What? Why not? Surely this has to be done! If not, I can see the same mess over and

over again – build the cask, try it out at some utility and then deal with change after change, after change, until you have ten versions of the design being used, and nobody knowing what the correct current SAR is, and the handlers at the plant confused as well as the subcontractors building the TADs. You need to get this right before you build a lot of them and put them out in the public in fields around the plants (on pads that weren't really made for TAD's at all). Those pads need to be soil tested etc. for this new design. These things will eventually go on our roads and rails a long distance – maybe behind your kids on the expressway, at a railroad stop, etc. They must be demonstrated and tested over time before the utilities start using them, so that as few changes as possible are made once they are in use at all. Let's look at lessons learned from mistakes in making the utilities be guinea pigs in the past using a cask design for the first time. This is a lot of expense for everybody involved if you don't get it right in the first place, because you wanted to beat a schedule date.

Page 203: (15) I'd really be interested in knowing what Dr. Abkowitz found out at the meeting with the Oneida Reservation in Wisconsin last September. Doesn't it seem wrong to you at all to be always trying to get Native Americans to deal with our nuclear waste? We had some Native Americans on our Wisconsin radioactive Waste Review Board that felt very strongly about a possible repository in Wisconsin years ago.

Page 228: (16) It states that since they are 45 minutes from a fire response at Yucca Mountain, they "train staff to fight it" and they describe a recent fire, which consumed several trailers. Certainly some sort of immediate response system for fire has to be in the plans at the site. Don't you agree?

Page 230: (17) It says that with years of use, considering the vibration of the trains – it's caused the gauge to wander and created a continual maintenance challenge. Has the vibration of trains in transport of the waste as to how it affects the contents of the cask been studied? What about vibration in transport in the tunnels at Yucca Mountain?

All the "real" problems described by this man concerning actual activities at Yucca Mountain so far is appalling. The deterioration of the facilities – the poor working conditions, the kind of "fix as you go" kind of thing that revealed they didn't even have a proper system of fire detection in the tunnel is just the kind of thing that I've seen over the years in dry cask loading and unloading pools at the utilities. Everybody sort of "band aids" the system as problems evolve – never really wanting to redo the original poor design because it would be too much trouble.

In the end big problems are a result of this kind of mind-set! And believe me, if they are in such a hurry to get everything up and running – no matter what – the schedule will take priority over everything else again – same old situation!

(18) I'm glad somebody asked about costs of just the general maintenance of the facilities such as water, light, roads, power etc. I'd really like to see a total cost projection for everything connected with Yucca Mountain, from TADs to transport etc. including what has already been spent all these years by NRC, DOE, etc. on this. Do you have any idea of this total cost to deal with this waste? I just don't see how anybody can depict this as an "answer" to the nuclear waste problem and propose new plants and new waste creation in the future. Congress has to

look at the total cost here and work on an energy program for this country's future that is safer and produces no such waste. Certainly wind and solar and power in wave action etc. can be used.

It really frightens me to think of all that spent fuel on the rails and highways. I certainly hope that there has been a lot of creative thinking about possible accidents and how to be ready to deal with them. And, of course, the main concern is terrorism – whether by some nut from our country or another – doing something drastic either to waste in transport or at the giant target of Yucca Mountain itself. I still don't think it's a good idea to put it all in one spot. Even considering a big fire there, at the front of the drifts, filling them with smoke and soot is a terrible scenario. Would they have a procedure ready to fight this? Would they even be able to enter the drifts again? What about the ever-important passive layer on the TAD's?

I hope that the Board will continue to ask questions on testing and demonstrations of the real thing. And I hope the Board will question the NRC and DOE on licensing criteria. This is a first for NRC and they learn as they go along too. They are people with only expertise with licensing procedures. A repository is a whole new ball game.

Thank You
Fawn Shillinglaw