

RECEIVED

JAN 11 2000

EIS002111

JACOB PAZ

DR. PAZ: My name is Dr. Jacob Paz. I have been involved in Israel production of atomic bombs, explosions at the Nevada Test Site, college professor working Yucca Mountain Project and my prime interest is in risk assessments, and I'm talking from scientific point of view.

1 I'd like to show non-compliance and what should be further research with Yucca Mountains. Number one, Yucca Mountains did not comply with all appropriate regulation Section 40 CFR of -- because of generation of hazardous waste. Due to the corrosion, we're going to have three pro -- processes. One, it's generation of heavy metal plume; second, followed by radionuclide; and third is production of mixed waste of heavy metals and radionuclides presume.

Part of the page 528 is there is uncertainty in the EIS which claim the corrosion rate can be very high and very much expectable if this is the correct curve. There are two table 5-1 and 5-2 which listed the concentration of heavy metals and activity of radionuclide, and the way I can see it is the least -- no, the worst scenario showing in the risk assessment. The US-EPA has a guidelines for complex mixtures, just the complex mixtures, and I listed one, two, three, four, and the latest one is there's a guideline which is developed by EPA which addresses the future issue. DOE does not have an official procedure conducted risk assessment or complex mixtures.

There is only very limited information in the literature regarding what is complex mixture, and I'll just elaborate it. One is a Russian work which was exposure threat to Strontium and Cesium and they show there was an interaction synergism. The second I presented a paper in 1994 that on heavy metals would show a synergistic effect, the problem which we have associated with risk assessment. Number one, there is no data provided for each if they are alone. Then we don't discuss what happen. Heavy metal would be probably more toxic, radionuclide will generated free radical byproduct to the immune system. There is non-compliance with EPA assessment guidelines for complex mixtures. One is important because if you're taking -- let's assume a 10 to the minus EPA for chromium or whatever -- I'm not using this exact -- complex mixture can pose 10 to the minus 3 or 10 to the minus 2 cancer risk.

2 In conclusion, I'd just like to read that with the risk of transportation, they failed to address the effect of this complex mixture. There is lack of toxicological data of heavy metals, radionuclides alone and both interaction. There is a need for more research. YMP did not comply with Rule and Regulation 40 CFR hazardous wastes part B with guidelines for complex mixture. And what I'd like to conclude, when you have risk assessment, you have to talk about environmental impact, economical impact. I don't know what 3 would be the economical impact and the consequences of Madam Butterfly. Are we going to have more trucker or less customer? It was not addressed in the EIS. You don't have to keep it. I thank you very much.

MR. LAWSON: Thank you, sir, and just would remind you that since you have given some technical information --

DR. PAZ: It's here.

MR. LAWSON: Give it to me.

DR. PAZ: I just want to add that I'm planning to submit a technical proposal to YMP which I have discussion previously with them.

MR. LAWSON: Fine. Thank you very much. And I appreciate your staying within the time constraints.

DR. PAZ: I try. I just want to say one thing. My approach is science and is not in advantage of -- of YMP, but before the doing it, they have to address this issues because the projected risk is unknown.