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ROBERT JONES

MR. JONES: Thank you for the opportunity to speak this afternoon. My name is Robert Jones and I'm a consultant in the field of radioactive material handling, packaging, storage, transportation and disposal. My principal expertise is in spent fuel or used fuel, as it's often called, and high-level waste. I've been in the nuclear field for thirty-four years, initially working for the major employer of nuclear compounds, and the last twenty-one years as a consultant in that same field.

I -- I want to comment -- this is not in my prepared paper, but I want to comment briefly on a comment that was made by an earlier speaker. I want to assure all of the men in this room and maybe in Las Vegas and in the whole country that they will not be sterile in the next twenty years by anything that has to do with
1 nuclear power or Yucca Mountain or activities associated with those. Jockey shorts I think are the cause that people mostly cite.

Now, you know, I apologize for sort of making light of a serious subject and I know that the speaker's intentions were -- were serious, but what I want to do is use that to illustrate the fact that we should be not making decisions based on rhetoric, but we should be making decisions based on facts and experience and good science, and in a -- and I've been sitting in this hearing room all day and I've heard, you know, a significant amount of rhetoric and I've heard not a lot of science in defense of that rhetoric. So I would just encourage us to kind of get back on that even keel, and to that extent, I want to talk about the facts that surround transportation safety.

MR. LAWSON: Before you go further, Nancy, could I ask you to ask the people who are around the corner to move, please? Or wherever the noise is coming from. Sorry. I just -- I just don't like for people to be disruptive so they can understand what you're saying. Please go on.

MR. JONES: Thank you. So the transportation of used fuel and high-level waste is -- really has an
2 enviable of safety. It's one that's unmatched in the transportation business. In the fifty years -- and I looked
continued at some Sandia statistics from 1949 to 1999. In fifty years of transporting the materials, there have been no
onpage 2 content releases and no injuries and no deaths due to the hazardous nature of the materials.

There have been a few events that might be called routine transportation accidents that are unrelated to the cargo. Thirteen such accidents, according to the Sandia statistics, six rail and seven highway have occurred out of the many thousands of shipments. I think the last figure I saw also counting military shipments, it was like in excess of 4,000 shipments, so thirteen accidents. Only one of these could actually be regarded as life-threatening and none of them were accidents of sufficient severity to even approach the cask design basis or the package design basis. Cask is the package that this material is carried in.

And the international record is equally impressive, and of course -- and the number of shipments that have been made in Europe and in Asia are probably ten times what we've experienced in this country, and they have the same kind of enviable record. Now this superb safety record didn't happen by chance. You know, there are many factors that collectively contributed to it.

First of all, there's a comprehensive regulatory environment that governs the design, construction, testing, operation and maintenance[of these containers and their transport systems. US Nuclear Regulatory Commission and US Department of Transportation both promulgate regulations relating to the spectrum of activities associated with the packaging and shipping of radioactive materials. These casks are designed to Federally mandated accident conditions that include high speed impact, puncture, high temperature fire and water submergence. Acceptance criterion is no release of the radioactive contents and complete nuclear criticality safety under the sequential application of the drop followed by the puncture followed by the fire

followed by the submergence test. In the international regulations under the Atomic -- International Atomic Energy Agency, IAEA, mirror those of the United States.

Secondly, the design and analysis of these packages are to national standards using state of the art proven numerical methods that have been benchmarked against real world conditions. The designer's safety analysis report, which is a formal document, for the package is independently reviewed by the Nuclear Regulatory Commission, and only when the NRC is satisfied that the package complies completely with the regulations will it issue a license or a certificate of compliance, as it's called, and this allows then qualified organizations to use the containers.

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Now, to survive this regulatory accident environment, the casks must be extremely rugged. They are -- their construction is thick walled, metallic construction. They are massively bolted lids. Oftentimes there are multiple lids, two or in some cases even three. Sometimes the closures are welded. These are -- and all of the vital components of the package are protected. If you saw the mock up that was out in the parking lot, those large simulated devices in fact represent what is used in the packaging business called impact limiters, and these are specifically designed and proven components that deform. I kind of use the term like an airbag, except they are far more efficient and function far better than an airbag, and they protect cask compounds and content.

MR. LAWSON: Mr. Jones, you're a little over time. Can I ask you to summarize in thirty seconds or thereabouts?

MR. JONES: Yes. Thirty seconds, okay. Sorry. Okay. Third, there's a rigorous quality assurance program that is enforced by the NRC and is accepted by everybody -- by every user of the cask. Fourth, there is an audit program that is to the quality assurance program that's conducted independently by the NRC that complements the internal audit that's done by the user.

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And then lastly there is a safety culture that exists in the industry where everybody that's in the business knows exactly the nature of the material and has a stake in assuring that the public and the workers and their families and their relatives and -- you know, their wives and kids are as protected as any other person in the country.

So, you know, all of those combined serves the industry and the general public well, and we have -- we know what we're doing. We've done this. We're designing to the highest standards, and transportation should not be a concern as experienced -- as stated, I believe, hysterically by an awful lot of people out in the parking lot. I am absolutely confident that we can ship this material with total safety. Thanks.