

LUNCHEON SPEAKER

Commissioner Frederick M. Bernthal
U.S. Nuclear Regulatory Commission

I'm delighted to join you for lunch this afternoon, and while I am keenly aware that this is a conference on waste management, the one thing I hope not to waste today is *your time*.

In the current edition of *Fortune* magazine is a cautionary tale of nuclear wastes. The owners of five houses in Montclair, New Jersey were forced not long ago to evacuate those houses after cancer-causing radon gas was discovered in them.

This gas, it was theorized, is a legacy from the 1920's, when a radium-processing plant stood where those houses now stand. As *Fortune* reported, the soil around the houses was dug up not long ago and put in drums for shipment to a commercial dump in Beatty, Nevada.

But after first agreeing to accept the contaminated soil, state and local authorities in Nevada responded to public protests with second thoughts and regulatory barriers against the shipment.

The U.S. Supreme Court has now appointed a special master to make recommendations. In the meantime, the drums sit in what used to be the backyards of four of the houses, and the owners are forbidden to return.

Like the owners of those houses, this audience is well aware of the need for a comprehensive, logical, and technically sound definition of radioactive wastes--for resolution of the ambiguities that have led to regulatory uncertainty, to a proliferation of "homeless" and "orphan" wastes, and finally to a regulatory gridlock that many people think glows in the dark.

I am happy to report that we are making some progress.

The Nuclear Waste Policy Act of 1982 granted the Nuclear Regulatory Commission authority to define "high-level" waste as anything that requires isolation in geologic repositories.

And as of last December, amendments to the Low-Level Waste Policy Act gives us the authority to define almost everything else, including wastes that are so low in activity that we shouldn't worry about them at all.

What we need to do now, and what we have the power to do now, is get on with the job of defining the full range of radioactive waste and what to do about it all.

One complication in this job is the fact that some low-level wastes pose both chemical and radiological hazards. The NRC shares responsibility for these wastes with the Environmental Protection Agency, and as you might expect, it's not always easy to tell where the chemical hazards end and the radiological hazards begin.

That's why we've suggested to the Congress that the Resource Conservation and Recovery Act should be

amended to make the NRC responsible for any form of nuclear waste, even if it's toxic to boot.

While the Commission believes that improved near-surface disposal of low-level wastes will meet the health and safety standards which the public has a right to expect, we intend to work closely with the States and Compacts to assist them any way we can in their selection of a disposal technology.

But whatever is done, it is to everyone's advantage that specific designs be identified early. I would specifically entreat States and Compacts to learn from the reactor industry the joys of standardization--to share knowledge, and to avoid the urge to customize.

As for high-level wastes, the Department of Energy and the NRC have until 1998 to construct and license a deep geologic repository. Not everyone believes we can meet that deadline.

While it may be an optimistic milestone, we at the NRC don't see the mere existence of a 1998 date as deleterious to the overall program. A more realistic assessment of the effect of this 12-year deadline will be possible after a detailed review of DOE's site characterization plans. But rest assured, we have no intention of letting milestone dates affect our ability to fulfill our public health and safety responsibilities.

Finally, several affected states and Indian tribes have recently suggested that DOE should not proceed to characterize sites by sinking shafts until those States, Tribes, and the NRC have substantially completed review and comment on the Site Characterization Plans.

We happen to agree with this position. We believe Congress intended that DOE provide plans sufficiently far in advance for comments by the NRC, the States, the Tribes and others to be considered prior to shaft sinking, and we have not been shy in expressing this belief, though it will be up to DOE finally to decide, under the watchful eye of Congress.

All of this, of course, reflects the necessary and constructive tension between DOE (the builder and promoter) and NRC (the regulatory and licensor). Such debates may seem to promote only controversy and uncertainty. But in truth, they represent the sharing of responsibility that Congress envisioned when it decreed a dozen years ago that the Atomic Energy Commission should undergo mitosis into the NRC and the DOE.

Even so, the Commission believes that when it comes to other judgement calls on DOE's programmatic and scheduling obligations under the law, it is up to DOE to construe and apply the law. And it's up to the Congress and the Courts to let DOE know if they don't like it.

Finally, I cannot leave a meeting on nuclear waste--or for that matter probably any meeting at all that involves the words "nuclear" and "lawyer" (and I can assure you, that wherever you find the first you will find the second) without commenting on another rule revision that the Commission has taken up as Congress debates renewal of the Price-Anderson Act.

Price-Anderson is the subject of a day-long seminar in itself. But let me speak just briefly about the relation of that Act to the yet-to-be-built nuclear waste repository. (As you will see, lawyers are already planning their careers for the 22nd century).

Under current Price-Anderson legislation, DOE indemnifies its contractors to the tune of \$500 million. In the proposed legislation, every dollar of the Price-Anderson indemnification of federal contractors would be taken straight from the waste fund in the event of an accident at--or in transit to or from--a repository.

To make life still more complicated, the President has recently decided that Defense waste and civilian commercial waste will be stored in the same repository, so there will also be an as yet undetermined Federal contribution to the waste fund.

Now the waste fund, maintained by a "tax" on power generation, was intended to cover repository construction and operating costs. It has only recently been suggested as a source of funds to pay Price-Anderson claims. Since no funds will be specifically set aside to pay Price-Anderson claims, it could well be that repository operating expenses would have drained the fund dry at the time an accident occurs, leaving almost nothing to compensate victims. So Congress would probably have to get involved in almost any circumstance to devise a supplemental compensation scheme.

Another interesting but as yet unanswered question is "who pays". Presumably, if an accident initiator can be proven to be Defense wastes, claims would be paid solely by the Federal Government. But it's a tricky question if an accident occurs and it cannot be determined whether the source was commercial reactor waste or Defense waste. Would you like to keep track of the Curie ratio of Defense and commercial waste? Or maybe determine which escaped Curie came from where?

As my eyes glaze over listening to such arguments, I am inclined to think that if the Federal Government mandated it, built it, and operates it, it might as well take responsibility up-front for Price-Anderson indemnity. I know that's too simple to make any sense in Washington, but I thought I'd at least give it a try in Tucson.

And if such mundane controversies of the present aren't sufficient to get your digestive juices flowing, let's talk for a moment about the longer term--say, the next 10,000 years.

As you know, EPA published last September final standards for the management and disposal of HLW in geologic repositories. The long-term containment requirements set forth in these standards limit releases to the accessible environment for a period of 10,000 years after disposal.

By EPA's calculations, compliance with these limits would correspond to a residual risk of not

more than 1,000 premature cancer deaths during that 10,000 year interval. That translates to 0.1 death per year, statistically speaking--easily 100 to 1000 times fewer deaths than annually attributed to natural background radiation exposure in the U.S. (except maybe for the effects of the high radon hazards near Montclair and elsewhere in the Reading Prong).

These EPA standards further mandate that protection be assured in the event that the unthinkable occurs--that not only you and I have departed, but that not even the U.S. Government is around 100 years after the repository is closed.

While by any reasonable yardstick, these limits reflect conservatism, DOE has concluded, and therefore the Commission has sanctioned, that the release limits as published can be implemented, and we are proceeding with rulemaking to conform to the EPA standards.

EPA's standards also have defined the area surrounding a geologic repository somewhat differently than was envisioned in the Commission's regulations. How this will be resolved remains to be seen, but it does raise a question of more general interest to the waste management community: What is a "site"?--whether uranium mill tailing, low-level waste disposal facility, geologic repository, or anything else.

As a practical matter, we believe the jurisdiction of the EPA and the NRC should be applied where the expertise of each agency principally resides. Much of the technical expertise of the NRC consists of engineering and related specialties. A similar statement, with another word substituted for "engineer", might well apply to EPA.

Any definition of "site" should therefore focus EPA and NRC jurisdiction on their respective areas of expertise, i.e. ambient standards for the off-site environment for EPA; on-site engineering for NRC.

Finally, in the era of Gramm-Rudman, we have recently been presented with the intriguing proposition that roughly half our budget, or \$200 million dollars, should be contributed by fees on our licensees.

Without getting into a theological argument over the merits and demerits of such a proposal, you will understand how this spring a Commissioner's heart might turn to money instead of the more traditional pastimes like track and field. Among the licensees we have been urged to tax is none other than the builder of the high-level waste repository, the Department of Energy.

Many schemes have been urged on the Commission--including simply sending DOE the bill for all our expenses. But I believe Congress is fully capable of choosing how to reimburse the NRC for those costs, and I think it unlikely to be a useful expenditure of time for the Commission to inject itself further into this debate.

By now it is clear that I have not covered--nor should I try to cover at lunch--even a small fraction of the subjects in a still smaller fraction of the detail that the experts here today will discuss in the coming week. But I am tremendously impressed by the expertise here today, and you should be commended for the attention you have given and will devote to this pivotal issue of nuclear waste disposal.

I can think of few subjects where the gap between public perception and scientific fact is as wide and enduring as it is in the case of the "nuclear waste problem", and that gap seems to be impervious to every attempt to close it.

So I would remind you that we have not fought the battle very well, and we have certainly not won the battle for public opinion in this business. Nuclear energy and the waste question have become an intensely public commodity in our country, and engineering the finest nuclear waste technology on earth is going to be a colossal waste of time and money if we fail to convince the American people that nuclear wastes can be safely managed.

Those of us involved in that enterprise and especially those of us who are responsible for the safety of that enterprise, have a role that requires not only that we do our jobs right but that we be seen as doing the job right.

I can think of no other endeavor where those twin requirements--doing the job right and being seen as doing it right--is going to be more important.

That is why you are here this week, and why I am honored to be in your company today.