

Comments to the Blue Ribbon Commission, January 28, 2011

By Christopher M. Timm, P.E.

Honorable Commission Members, Ladies and Gentlemen:

Having been the independent oversight contractor for WIPP for the past five years and having well over forty years of experience with environmental protection and waste management, I offer the following comments.

First, I applaud the Blue Ribbon Commission for your efforts to assimilate what has been learned since WIPP opened, in fact, since the 1957 National Academy of Science report that started our quest for a sound high-level waste disposal strategy. It's good to see people who recognize that decisions made twenty to fifty years ago should be re-examined base on new knowledge, experience, and information.

The International Atomic Energy Commissions Joint Convention on the *Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management* that the United States and most other countries with overt nuclear capabilities have signed contains the following two overall objectives:

- The generation responsible for generating the radioactive waste is responsible for its safe disposition; and
- The disposition solutions chosen by the generating generation should not impose undue burden on future generations or environments.

Unfortunately, with the decision to not open Yucca Mountain, this country has failed to meet the first objective, in fact, it is several generations behind. However, the good news is that over the 60 plus years we have been generating radioactive waste, a significant quantity of it has already disappeared through natural decay – more that ½ of the Cesium 137 and Strontium 90, for instance, are gone.

With respect to the second objective, the key is how 'undue' is defined. The disposition solutions that were and are used for essentially all waste generated by man have and will continue to leave a future burden. Our knowledge is imperfect so today's solution such as extensive waste treatment and material recovery, landfills, deep geological repositories, etc. may turn out to have future un-envisioned environmental, health, and safety consequences.

With that introduction, I believe that the most responsible overall national solution to radioactive waste management should include the mandate to treat or reprocess the radioactive waste streams to reduce the amount of radioactive material that has to be disposed as much as possible.

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First, with our national emphasis on material recycling and recovery, it does not make sense to knowingly discard a proven energy producing, carbon dioxide free resource that we spent millions to produce in the first place. That is a luxury that we can no longer afford. Second, the less amount of waste that must be disposed, the less burden on future generations. So, I recommend that the commission emphasize recycling of spent nuclear fuel and reduction of the volume of high level waste as a minimum.

With respect to disposal, I don't believe that deep geological repositories are the necessary solution. We dispose of many very toxic and essentially eternal wastes, such as heavy metals, pesticides, PCBs, etc., in shallow landfills so why is it necessary to take the extra precautions for radioactive waste, particularly since it renders itself less toxic and dangerous over time – yes a long time for some isotopes but nevertheless it does go away. A landfill with arsenic or lead in it will have the arsenic and lead in it for eternity – why do we allow less protection for those wastes than for radioactive wastes? I am not aware of any requirements to project the possibility of pollution from landfills further than 300 years out so why do we require attempts to predict the future for 10,000 years to a million years for radioactive waste disposal sites?

Finally, if the Commission believes that deep geological repositories are still the best solution for some forms of radioactive waste, then there has not been any data or information garnered in the 50 plus years since the 1957 National Academy of Science Report “*The Disposal of Radioactive Waste on Land*” that has changed the conclusion in that report that salt deposits are the best choice. The fact that the land is available and much of the necessary infrastructure for such a repository is in place at WIPP certainly would make for a more cost-effective solution than starting over elsewhere.

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