

Toxic Government versus Toxic Waste

John R. Horan, CHP

In prehistoric times, around 1.8 billion years ago, Mother Nature brought forth a number of critical masses of natural uranium, moderated by rainwater, that operated intermittently for around one hundred thousand years. These nuclear "reactors" were analogs of the most common energy source in the cosmos: nuclear reaction. The surprising aspect of this phenomenon is that it took place in one of the smaller solar systems on an insignificant blue planet that we now call Earth. Proof that the event had occurred was collected by French scientists in 1972 at Okla, Gabon in West Africa. Much to the surprise of modern man, the plutonium and fission products created over billions of years ago had remained near their place of generation, without migrating or polluting the environment. Logic tells us that because of the natural abundance of uranium and thorium, this phenomenon would not be unique. Other fossil reactors must exist on other continents, waiting to be discovered.

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How could such a major event happen to poor old Mother Nature, who lives under a single unified force? Without any of the benefits of modern engineering, she had achieved highly efficient and remarkable waste containment, as well as excellent environmental shielding against long-lived radionuclides. All this without the benefits of fuel cladding or multilayers of confinement such as special backfill material, synthetic rock, or impervious canisters, and even without using borosilicate glass. But then there are many natural processes at work isolating all types of waste products. The real challenge to

modern man is to find a cost/benefit ratio for nuclear waste containment that will provide the maximum in risk reduction.

10,000 Years of Isolation?

We tend to forget, however, that in prehistoric times Nature was living in a simplistic world of her own. She did not have all the impediments which are part of the modern baggage of a republican form of bureaucracy, where the representatives of the masses represent primarily themselves and secondarily the hired guns of special interest groups. Nature, moreover, was not handicapped by silly rules formulated by layers of redundant regulators and lawyers with a "can't do" mentality, and no sense of national need or values. Nature's dictatorship of verbatim compliance with her own well-organized laws of physics, chemistry, and biology was not perverted because of contradicting mandates from multiple agencies employing the law of the jungle to protect and expand their perceived turf. Nor were there fiscal restrictions imposed by annual budget circuses or by third- or fourth-guessing micromanaging "experts."

Site selection was a snap; there were no stakeholders in league to defend resources; no pseudo environmentalists to turn off the sun or to stop the rain, no thousand-page environmental impact statements to confuse the issues with endless alternatives, no governors or local congressmen to say "not on this planet." Finally, there was no vocal minority of antigovernment groups to file endless lawsuits and to intervene at public hearings with misleading statements. There were no demands for total environmental cleanup without regard for costs.

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Vice President Gore is right on target on our need to reinvent government, although his solution of more government misses the target completely. In America today, government is not the solution; rather, Toxic Government is the problem. Why do regulators need guarantees that spent reactor fuel be isolated from the environment for 10,000 years? They claim it's necessary because such fuel contains long-lived radioisotopes such as plutonium, with a radioactive half-life of 24,000 years. Yet similar isolation requirements are not demanded for other toxic materials such as lead, arsenic, or selenium, which are not radioactive and therefore have infinite half-lives: they will never decay to a nonhazardous form.

The management of nuclear waste is an integral part of any technology.

At its 1993 Fall Meeting, the Materials Research Society demonstrated true professionalism in its consensus position that the successful implementation of the nuclear waste repository concept is unlikely as long as regulators require containment predictions that extend over a 10,000-year period. The management of nuclear waste is an integral part of any technology. The world tends to forget that nuclear technology, with less than 50 years of growth, is still youthful. Few had visualized how pervasive its utilization would become in medicine, engineering, and academia over such a relatively short span of time. No one can foresee what applicable advances in environmental isolation or cost benefit will occur over the next 50 years. So, to take maximum advantage of future developments, the maximum amount of flexibility should be retained in the design of waste repository processes. One should avoid the irreversible and irretrievable commitment of limited available resources.

In my opinion, reading the December 1994 issue of the *MRS Bulletin* on nuclear waste disposal allows us to focus broadly on the impact of Toxic Government on the nuclear waste scene since the 1980s. Look at the current status of the major waste management efforts:

- Closure of the Barnwell Chemical Processing Plant in South Carolina, before startup.
- Delays in the operation of the Waste Isolation Pilot Plant in New Mexico.
- Federal intervention to prevent the opening of the Ward Valley Low-Level

Disposal Site in Southern California.

- Roadblocks in selecting several Monitored Retrievable Storage Sites on private or Indian lands.
- Closure of the Idaho Chemical Processing Plant for spent naval fuels and the Savannah River Plant for weapons fuels.
- Delay in the storing of spent fuel at Yucca Mountain Site in Nevada until after 2010.
- Fraud and waste in Superfund cleanup of U.S. Department of Energy (DOE) weapons plants.

Each of these major projects is an example of paralysis in government, politics as usual, lack of national leadership, inconsistent policies, and frequent rule changes. A well-funded and organized national chain of "green" groups has created a logjam in nuclear energy that continues to plague our country. The United States is the only nation with established processing capabilities that has assumed the saintly role of foregoing spent fuel reprocessing in the name of nonproliferation of fissionable material. This is the first time in human history that any nation has decided to bury a usable energy source. As a result, this multibillion-dollar reprocessing market is concentrated in France and the United Kingdom.

Since the late 1970s, International Atomic Energy Agency and World Health Organization study groups have concluded that temporary or permanent storage of all types and levels of radioactive waste could be done in engineered facilities with minimum environmental impact. Switzerland and Sweden have already constructed such facilities. After 20 years of development, testing, and pilot-scale operation, the French at Marcoule in 1977 began using a continuous process of glass vitrification for high-level reprocessed waste. Back in the United States, however, governors and congressional delegations have opposed even the study of the temporary storage of spent fuel elements in a monitored facility designed specifically for that purpose on private or Indian lands within their states. They consider it politically incorrect, since the concept could result in public controversy. In a recessionary period, they threw away the opportunity to gain hundreds of millions of dollars in jobs and tax revenues for their constituencies. They never considered that the public could be educated about the benign nature of such storage and that it could provide total safety for the environment.

Breaking the Logjam

Government regulatory agencies should be treated as businesses that must

either grow or die. The methodologies used by the U.S. Environmental Protection Agency (EPA) and DOE often overstate environmental risks by using overly conservative assumptions. This leads to perverse over-regulation based on unsound science—a continuing and unrecognized ratcheting of requirements. Policy has not remained separate from science, and too frequently one is used to justify the other. As a result, the priorities of regulatory agencies become inverted. EPA, in particular, is more interested in swatting the environmental gnats than in attacking the raging elephants damaging public health. For example, let's compare the relative risk from three environmental problems: radon in homes, radiation exposure from cigarette smoke, and low-level radiation waste disposal. Which constitutes the greatest hazard to the most people? Cigarette smoke, by orders of magnitude. Which problem is receiving the largest commitment of money and resources? Low-level waste disposal, by orders of magnitude. Which has received the greatest publicity by EPA over the past decade? Radon in homes. Yet, low-level waste disposal is meaningless as a risk.

Waste, fraud, and abuse must be weeded out of waste cleanup programs.

Political activists and quasi-environmental groups encourage this type of misdirected focus by using the smoke screen of the public's fear of cancer. They scare the media and Congress into reaction, without any concern for the costs involved or the limited benefits to be gained. The Clean Air Act of 1990 is a classic example, with its annual tag of \$80 billion in taxes on American industry. Only now are regulating agencies beginning to select their public targets on the basis of relative risk. Soon they will realize that less than 5% of the over 200 distinct varieties of cancer can be caused by ionizing radiation and that less than 2% of all cancers result from radiation exposure, the vast majority of which are from radiation sources indigenous to our natural environment.

Waste, fraud, and abuse must be weeded out of waste cleanup programs. One effective technique would be to reorganize cleanup efforts to reduce the redundancy within and between agencies and the overlapping responsibilities in multiple agencies, to eliminate obsolete regula-

tions, and to simplify procurement practices. For example, there are 17 federal agencies involved in radiation protection, with conflicting rules on exposure criteria and cleanup requirements. With an average of 39 layers of management, there is much room for improvement for all the regulators.

Perhaps the most obscene aspect of Toxic Government in action is the way in which DOE has tried to clean up its contaminated sites—and its reputation—by kowtowing to every whim or concern of its "green" critics. DOE has jumped on the EPA bandwagon to comply with the obsolete requirements of the Superfund Program. This was the megaprogram of the 1980s, designed to remove toxic waste from industrial sites. Because of major inherent flaws, more than 80% of the program's fiscal resources have been wasted on confrontation and litigation. Hardly a success story for toxic cleanup.

DOE will not leave any pork barrel unfunded if it can contribute to the new Mr. Clean image, including the establishment of speakers bureaus, stakeholder meetings, state oversight, dose reconstruction citizen advisory boards, human radiation exposure studies, and exotic waste remediation research by universities and private industry. As a final evolution, environmental intervenors are now on the DOE headquarters staff, as political appointees, to help the cause. The really tragic part of all this Toxic Government is that the average stakeholder still does not know the vast amount of taxpayer money being spent or the extent of mismanagement in the waste cleanup effort to date. It's approaching the scale of the savings and loan mismanagement scandal of the late 1980s. Spending more taxpayer money for risk reduction in waste management where public health benefits are low takes money away from other life-saving activities whose benefits are high—for example, inoculations for children.

The December 14, 1992 issue of *U.S. News and World Report* contained an exposé on DOE efforts to clean up its radioactively contaminated sites. Titled "The \$200 Billion Dollar Scandal at the Bomb Factories," the feature was based on a six-month investigation that presents graphic evidence of the waste, fraud, inefficiencies, and corruption surrounding the cleanup effort. The study shows that money and resources are being thrown at this effort, and provides a litany of serious systemic problems which have caused 40 cents of every dollar to be wasted. This is a portrayal of Toxic Government at its worst: incompetent management, excessive overhead, uncontrolled costs, con-

tractor coddling, and contract fraud. These allegations have never been denied. In July 1994, a television documentary by the magazine news show *20/20* reported on similarly widespread abuses.

DOE is now three years into this major program of waste remediation. While there has been a change in administration in Washington, with new leadership, no decision has been made on future use of the reclaimed lands or even on the establishment of criteria for determining "How clean is clean?" The new DOE hierarchy has publicly talked about returning all their landholdings to their original condition. This is a lovely theory if one has unlimited funding, and the concept could be justified. But there seems to be little thought given to the fact that reclaiming land is similar to purchasing a high-fidelity sound system: 90% of the costs are needed to obtain the last 10% increase in

quality. As a case in point, a current draft environmental impact statement under one alternative considers "residential use as the preferred land use" for arid lands covered with lava rock and sagebrush.

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Don't you think it's finally time to get mad and start detoxifying government? We, the silent majority of technical people, must become more actively involved if we want to change the regulatory scene. Wise technical decisions do not occur in a vacuum surrounded by politicians and special interest groups. Let's

help reinvent government by evaluating environmental health threats and quantifying the costs involved for risk reduction so that our society can overcome the current paralysis and obtain the highest level of benefits at the lowest possible cost. Let's also keep our options open for technical breakthroughs and upgrades which are certain to come with the maturing of the nuclear age.

But first, let's DETOXIFY GOVERNMENT!

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