



Los Alamos Study Group

Nuclear Disarmament • Environmental Protection • Social Justice • Economic Sustainability

Permit

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DOE, Environment Department Release “Cleanup Plan” for Los Alamos – Sans Cleanup Requirements

Nuclear Waste Disposal in Shallow Pits Continues as “Cleanup” Runs in Reverse, No Sign of Stopping

Contact: Greg Mello, 505-265-1200

Today, the Department of Energy (DOE), New Mexico Environment Department (NMED), and University of California (UC) – the owner and operating contractor, respectively, of the Los Alamos National Laboratory (LANL) – released their joint proposed Consent Order (Order) governing all investigation and cleanup responsibilities for sites at LANL contaminated with hazardous wastes.

The Order was issued under provisions of the New Mexico Hazardous Waste Act (which essentially mimics the requirements of the federal Resource Conservation and Recovery Act, or RCRA).

The 271-page document can be found at <http://www.nmenv.state.nm.us/hwb/lanl/>.

“It’s very important to understand that the Order does not, in fact, require any cleanup, nor set any schedule for cleanup, apart from the handful of small cleanup actions already begun by LANL,” remarked Study Group Director Greg Mello. “Instead, it describes an 11-year process of investigation and *possible* cleanup – where future cleanup decisions are to be subject to site-specific “risk analyses,” themselves based on “projected land uses” and subject to a large number of other subjective factors, all in the context of a complex dispute resolution process rather than in the context of any clear regulatory requirement.

“In fact, NMED promises, in this Order, to promptly *remove all permit requirements for cleanup*. Why? One reason is that performance under a permit is subject to citizen suit as well as NMED enforcement. NMED also promises *never* to sue DOE to resolve future disputes that may arise in implementing the Order, and forever after as well.”

“The investigations proposed in this Order, while they are set forth with great technical competence as far as the details are concerned, are nonetheless largely irrelevant, in some cases because enough is already known to begin cleanup, and in others because no amount of money will ever be enough to provide the answers,” Mello continued. “If Hercules felt he needed to count the piles of dung in the Augean Stables, he would have neither counted them successfully nor cleaned up the stables. In the real world, as in the fable, you just have to start digging. You count as you go.”

“This Order is not really about cleanup. It is about providing large environmental budgets for LANL without actually ordering any cleanup – which would be very problematic to the weapons program and hence to NMED, which is partly supported by DOE. What NMED has produced is an environmental science welfare program, and little more. LANL has already spent almost a billion dollars without significant cleanup, and the endless wells of money are not going to be endless for very long. The big money needed for cleanup at LANL is being spent right



now in Iraq, and on the tax cuts enjoyed by our wealthier citizens. The country is now expected to run big deficits for the foreseeable future.”

“Actually, the amount of contamination at Los Alamos has been increasing, not decreasing, as nuclear wastes and some chemical wastes (e.g. PCBs) continue to be disposed in shallow pits,” emphasized Mello. “This is the real problem with the so-called ‘cleanup.’ There isn’t any and won’t be any, since DOE will never clean up Los Alamos as long as it needs the lab as a major dumping site for its nuclear weapons program, especially for the plutonium pit production program starting up at LANL.

“The big nuclear waste disposal site at LANL is already twice the volume of WIPP, and it’s growing every day, just as it has since the 1950s. NMED has authority over this site, but has chosen not to exercise it.” Twenty-seven environmental organizations and more than 3,000 people have petitioned governors Johnson and Richardson to close the LANL dump, called “Area G.”

Today’s proposed Order is especially notable in that it proposes to substitute the Order, which has been privately negotiated under duress of multiple lawsuits filed by DOE and UC against New Mexico, for the statutory open hearing and citizen appeal provisions of RCRA. There is a vestigial “public involvement” process in the Order, but there is no legal authority cited. “This is because public involvement is really voluntary on the part of the NMED and involves no right of appeal, as this Order resolves litigation which citizen plaintiffs were not a part. Formally and legally, citizens are shut completely out of this process. Public relations have replaced public hearings,” said Mello.

“All in all, the Order continues a process by which State regulation of LANL has been weakened by conflict of interest, federal intransigence and bad faith, and by a lack of political courage on the part of the Governor’s office and NMED.”

“This Order not only wastes money and time but gives away the State’s power. NMED has strong legal authority, but has chosen not to use it at LANL,” charged Mello – who was the State’s first inspector at LANL in 1984, and who wrote the initial enforcement actions at the site that same year.

The investigative process ordered today will continue prior investigations that first began on a large scale in the 1989 timeframe. Results of those investigations fill a small library today. Almost an entire generation of LANL environmental scientists have been employed in producing them. Many have retired, and the long passage of time is causing some of the early work – never applied to actual cleanup, because cleanup was not requested by the State – to be lost from memory.

Many months of preparation lay behind the original May 2, 2002 Order. Thus today’s Order represents some three years of investment by the NMED so far. During this long negotiating period, at least one enforcement action and at least one NMED-issued schedule for site investigations were stayed, as well as previously-planned issuance of draft permit documents and subsequent public hearings on the operation and cleanup of portions of LANL. Thus most other progress on bringing LANL into full formal compliance has been held in abeyance pending the conclusion of these secret negotiations.

Further background can be found at <http://www.lasg.org/waste/lanl-waste-index.htm>.

Further comments are available upon request.

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“How to clean up Los Alamos”

Preliminary Comments, 9/8/04 draft, Greg Mello

Introduction

The environmental situation with respect to pollution from Los Alamos National Laboratory (LANL) is complex. The regulatory situation is far more complex – so complex, I doubt if anyone fully understands all the possibilities, contingencies, and nuances. The nation’s primary hazardous waste law, the Resource Conservation and Recovery Act (RCRA), together with the state’s “baby RCRA,” the New Mexico Hazardous Waste Act (HWA), comprise the active core of the regulatory authority at the site. These two laws were simply not designed to cope with this situation and cannot effectively do so. This is all the more true in the absence of genuine, active democratic participation, which the New Mexico Environment Department (NMED), the Department of Energy (DOE), its quasi-independent nuclear weapons fiefdom, the National Nuclear Security Administration (NNSA), and finally the University of California (UC), which manages the site for the DOE and NNSA, all have potent reasons to discourage.

Still more complex, primarily because it is kept so cryptic, is the enormous tension that lies beneath the surface gloss of politics and public relations – the tension between the world of nuclear weapons and the world of human beings and the values which have built their culture, civilization, and the body of laws by which both are maintained.

The world of nuclear weapons is a world of absolutes. It is a world of enormous temperatures and pressures, physical conditions which have already been used to create enormous death and destruction. Such violence seduces the leaders of the nation-state to think that nuclear weapons can be for them – but not for others – the old Roman *ultima ratio*, the final arbiter of conflict, the final and unfailing source of absolute national power and sovereignty. The practical details of such a weapon thus require absolute secrecy, which in turn requires absolute obedience, which is absolutely incompatible with freedom and democracy.

Morally, these weapons turn the world upside down. The nuclear weapons enterprise, basically, is a quest to achieve the most extreme opposite of the Golden Rule that science can devise – maximal yet convenient death to any and all others, with as much safety and security for myself as possible. As such, it corrodes the moral basis of civilization directly, leading to nihilism and despair. As the intense conflict they cause between normative systems ramifies through our government, the administration of laws selectively collapses, as we see now in the case of environmental regulation at LANL.

Nuclear deterrence is, after all, little more than a doctrine of state-sponsored terror, useful for rulers to control their own populations and any competing political interests in their own countries at least as much as it is useful in coercive diplomacy elsewhere, all the while providing no actual defense or security for the country asserting such a doctrine.

When the institutions which comprise such a regime – a regime which is utterly ruthless and death-dealing at its very core, as a matter of commitment and fundamental ideology – confront a small, provincial bureaucracy in a historically weak state that has an unpaid, volunteer legislature, it is the latter which will give way. Which it has. We can be grateful the situation is not worse, and for this we must thank the civil servants at NMED and DOE who toil, often thanklessly, guided at crucial junctures only by the light of their own consciences.

The remedy to the environmental contamination posed by nuclear weapons, and the challenge they pose to our state's ability to regulate its own affairs, including the protection of its environment, will not be found in bureaucratic reform, which is fundamentally incapable of addressing the issues involved. It will be found in a sober recommitment to the values that make us human at all, a recommitment which necessarily involves a firm rejection of the will to violence embodied by the weapons which waste us, our land, and the efforts of our civil servants.

The central idea in the multiple lawsuits filed against New Mexico by DOE, NNSA, and UC was that nuclear weapons are too important to be hemmed in by little environmental laws. Neither, then, can we allow our response to the crisis posed by these weapons to be captured in little, timid ideas. We must disenthral ourselves, as Mr. Lincoln said some time ago, if we would save our state, its people, and our environment – indeed, if we allow our eye to take in a wider picture, if we would save humanity itself. As Mr. Lincoln said then, we cannot avoid history. Today, as when Mr. Lincoln spoke, we have to choose where we stand, and what we stand for, and we have to speak that truth, because it will be the truth about who we are.

1. Some important basic facts about the environmental situation at Los Alamos

The first step is to achieve some basic clarity about the situation. While I am not fully cognizant of all the currently-available details, these elementary big-picture facts can and should be stressed.

- There is no safe level of contaminants, but there are choices about societal investments.
- The Rio Grande will never be contaminated by Los Alamos above any drinking water standard by groundwater discharge from LANL watersheds, for fundamental, elementary reasons. The risk resulting from contaminants added to the Rio Grande from chronic groundwater discharge at LANL will always be orders of magnitude below the risk from contaminants already in the Rio Grande and in other New Mexico water supplies (e.g. Albuquerque ground water).
- The Rio Grande could be contaminated above drinking water standards by some scenarios involving sudden releases caused by, for example, accident, sabotage, or terrorist act. Another possible scenario is the contamination of land and river as a result of mining of shallowly-buried wastes at LANL, e.g. mining done in pursuit of the fissile materials buried at LANL.
- Wells on the east side of the Rio Grande will never become contaminated above drinking water standards by Los Alamos-caused ground-water pollution.

- The regional aquifer at Los Alamos, where it has become contaminated or where it may be contaminated in the future, can never be cleaned up by any pumping or injection method. That aquifer is too areally extensive and too thick (these two together mean that it has too great a volume), and it is too deep. It will always be much cheaper (by orders of magnitude), to apply cleanup technologies at the wellhead, if ever needed, than several hundred feet deep in the ground.
- There is no danger of massive contamination of the regional aquifer, because there is no mobile body of contamination adequate to cause it. There is some contamination of that aquifer in some places which so far has not risen above any water quality standard in any public water supply well. It may or may not ever do so.
- The simplest, cheapest, and most reliable monitoring wells for contamination of the regional aquifer as it may affect human health now or in the future, are the drinking water wells in that aquifer, which can be monitored closely for trends in contaminants for a tiny fraction of the cost of an adequate system of deep monitoring wells.
- There is no other public purpose for investigation and monitoring of the aquifers at Los Alamos than to protect public health. Since an adequate monitoring system for aquifer contamination is already in place (a consequence of the facts above), the only purpose for any hydrologic investigation at LANL is to inform the *active* removal of contamination from either the aquifers or the ground above them. *Passive* contaminant attenuation in the aquifers, i.e. doing nothing, to the extent that approach is chosen, is adequately served by monitoring the existing drinking water wells.
- There is already an extensive body of knowledge about the geology and hydrology of Los Alamos, including about the regional aquifer. As concerns contamination in the regional aquifer, that body of knowledge is more than adequate for the purposes of decision-making regarding any and all actions that might be taken to protect human health.
- While the overall hydrogeology is already known in general terms, it will not be possible, no matter how much money is spent, to produce a finely-detailed, fully-capable model of LANL hydrology that is capable of predicting the transport and fate of contaminants from a given recharge area to a given discharge area to a useful degree of accuracy. Not only is there no need for such a simulacrum, but there are insurmountable technical problems that prevent its completion. One such problem is the fact that the hydrogeology of Los Alamos is very heterogeneous, and the flow in fractured basalt in particular is probably not even always Darcian, i.e. some pathways probably exhibit the kind of flow that occurs in pipes. Other highly permeable zones also exist and are elusive. The location of the highly-permeable features cannot be fully discovered by drilling, since their dimensions are measured in inches or in other cases in feet, and the LANL site is 1.2 billion square feet in size. Statistical methods are merely descriptive. It's far simpler, wiser, and cheaper to remove what contaminants one can, since it is already known which are the most important ones to remove, and the overall risk is dominated by potential future events that take place at the surface anyway, i.e. is not dominated by hydrologic processes. A second trans-scientific problem is

posed by the hydrologic properties of fractured vadose zones, for which there is no accomplished theory, let alone predictive capability. The prompt movement of meteoric water to depth in fractures apparently depends sensitively on the surface characteristics of these cracks, among many other factors, which presumably vary from spot to spot and also with other conditions (physical, biological, chemical) in some complicated way. The fractured vadose zone problem has defied clear understanding so far at Yucca Mountain, despite massive federal investment. The upshot of these issues and others is that at LANL, with this “brute-force” approach, one must destroy the mesas in order to “save” them – “saving” being defined merely as knowing about them (or knowing how they used to be prior to drilling all those holes, in some fictitious, idealized sense), not as remediating them. In addition to these two trans-scientific issues, objectively unknowable factors such as climate change also weigh in. Much could be said about the “institutional autism” that characterizes the current bureaucratic approach to the objective world and its other logical, not to mention institutional and political, weaknesses, but these two scientific issues must suffice to provide a glimpse of deeper and more extensive problems.

- It is conceivable that some of the perched intermediate aquifers at Los Alamos could be remediated if this was found to be desirable. This is because the concentration of contaminants in those aquifers is much greater (heuristically, let’s say 10 times greater) than in the deeper aquifer, while the volume is much less (heuristically, let’s say 10 times less); the depth is also less. This means that if *active* protection of the regional aquifer is desired (as opposed to passively monitoring), it is much more cost-effective (heuristically, perhaps 100 times more cost-effective, given the two factors mentioned) to focus efforts on the intermediate aquifers, as opposed to the regional aquifer.
- But the shallow alluvial aquifers and the vadose zones above them are in turn contaminated, in some places, to a much greater degree than the associated intermediate aquifers. They are also much more accessible, with drilling costs a factor of, heuristically, 10, 100, or perhaps even 1,000 times less than that for the intermediate aquifer, depending on the type of well emplaced. This means that for the purpose of removing contaminants, as well as for the subservient purpose of investigating contaminants and their associated geohydrology, it is much more cost-effective to focus on these shallow aquifers, vadose zones, and associated materials (some of which are accessible to a variety of removal and treatment technologies) than it is to focus on deeper aquifers. Contaminant removal (and hence investigation, the sole purpose of which should be active remediation, given the above facts) will be, heuristically, perhaps 100 times more cost-effective than in the intermediate aquifers, and hence perhaps 10,000 times more cost effective than in the regional aquifer.
- Generally speaking, by far the greatest mass of contaminants at Los Alamos lies in the Material Disposal Areas (MDAs), which are all fully accessible at the surface, for better and for worse, with technology as simple as a shovel powered by human beings.
- All the contaminants in those MDAs, as well as all the contaminants at the site in general, will eventually be somewhere else. What is not known is the shape of the loss curves for each contaminant from each dump site. These can never be known to any important degree of precision.

- In the long run, the risk and total hazard associated with Los Alamos contamination will be dominated by the contaminants now in the MDAs, and in a very few other known, major contamination sites.
- Some of those contaminants represent proliferation concerns in the quantities present. Many nuclear weapons could be made from wastes now “permanently” buried at LANL in shallow pits, shafts, and collapsed explosive chambers. In some cases, these wastes are quite concentrated in fissile isotopes such as plutonium-239.
- It is not possible to construct an objective, scientific risk assessment for these MDAs and major sites, because some of the most important risk factors cannot be estimated. These involve human will, intention, institutions, and memory, all of which change subject to biological, social, political, epidemiological, climatic, and other events which cannot be predicted with any confidence at all on a scale of decades, let alone centuries or millennia. Human beings are inherently creative and unpredictable; that is what makes them human. Also, while there is disposal information available for the MDAs and other few major sites, the accuracy and completeness of this information is not known. LANL does not know and cannot know what is in those pits and shafts without physical and chemical inspection.
- Investigations that aim to discover movement of wastes from MDA cells into the immediate surrounding vadose zone may be interesting, but they have little or no bearing on estimating long-term risk or hazard from those cells.
- Finally, and in many ways most importantly, the total amount of waste disposed into the environment at Los Alamos is increasing daily at a significant rate. There is at present no plan to halt disposal, but rather there is every intention to continue disposal at Los Alamos indefinitely, at rates which may approximate past disposal rates. and in unlined pits and transient containers (e.g. carbon-steel drums) no different from those used in the past. Disposal of waste increases the long-term hazard proportionately, all other factors being more or less equal.

2. Clarify terms – clean up the language

At the outset, it is important to clean up our language, since public relations practices at LANL and NMED have intentionally blurred it in order to avoid responsibility and hide what is going on, perhaps even from themselves. That is how rule by administration works.

Cleanup is not a bureaucratic program by that name. Here, let's refer to *cleanup* as real, positive actions taken to remove contaminants from the environment, in contrast to *investigation* (physical and chemical measurements to gain data to define the extent and nature of contaminants in the environment), *monitoring* (chemical sampling of contaminants already known to be in the environment), and *analysis* (manipulation and assessment of data to assist in decisionmaking).

Cleanup is not the same as leaving a body of contaminants in the ground or groundwater; neither does it include adding freshly-produced contaminants to the ground, i.e. *pollution*. Over the course of the past decade, as in the decades before that, LANL has done more polluting than cleaning up.

Cleanup may or may not be warranted in any given case, depending upon political decisions including, among other factors, considerations of projected medical *risk* to individuals and aggregate *hazard* to human and non-human populations as well as religious, economic, and aesthetic criteria.

Risk, hazard and other political considerations apply differently at different times, but must be considered together now and for the foreseeable future, whether or not they are commensurable or even compatible. They must be considered in a cross-cultural and multi-generational context. Reconciling values and interests is an inherently *political* problem, requiring an evolving political solution. Thus considerations of relative political power, representation (including of other generations as well as the current one, sometimes hidden in decisions such as those concerning whether or not to use a discount rate for future investments, risks, and costs), enfranchisement, accountability, etc. are central to the pollution problem and decisions surrounding it. Science, among other paths of knowledge, can inform us. People acting together, i.e. politics, will decide.

Broadly speaking, there are really only two alternatives to cleanup: *passive attenuation* (thoughtfully waiting, while monitoring, for the combined processes to dilution, adsorption, natural chemical and biological destruction, and radioactive decay to lower contaminant concentrations or total quantities, or both); and prompt or eventual *abandonment in place*, usually after attempting to retard the movement of contaminants within the environment by means of barriers such as landfill caps, passive groundwater barriers, and other geotechnical engineering projects. There are obviously degrees of care and sub-alternatives in all these categories.

Waste is not *stored* in landfill cells, as there are no means to inspect it and no means or intent to take it anywhere else. Discarded waste materials not being stored have been *disposed* and are already in the environment. Such waste can and will migrate, but cannot "migrate into" the environment because it is already there.

What ultimately happens to contaminants that are "cleaned up?" They may be *treated* and destroyed or at least rendered less inherently dangerous; and/or they may be *disposed* in the environment again, presumably in a place and in a manner that has a lower hazard now or in the future and/or meets other political objectives. Contaminants removed from the environment are present in a matrix of earth materials (soil, rock) or water, which may sometimes be partially removed from the contaminants to facilitate treatment, transport, and subsequent disposal of the latter. Cleanup may thus involve removing contaminants in earth or water in one place and disposing of them in another, with or without treatment or subsequent packaging, etc., even in another location at the same site, if the new location is much less hazardous or meets other important political objectives.

3. Cleanup involves political and cultural, as well as environmental, decisions

Cleanup involves risks to individuals, both to workers and to populations, as do all other human activities. Construction of homes, all industrial and laboratory work, military service, childbearing, even white-collar employment with accompanying stress, as well as recreational activities – not to mention dietary and life-style choices – all involve risk. Individuals and collectivities assume these often-considerable risks voluntarily for the sake of other goals and values deemed more important, or perhaps they do so as a result of coercion, compulsion, or vice. The first situation we call “freedom.” The *involuntary* assumption of mortal risk as a result of state decisions, outside a system of full enfranchisement and assented legitimacy, is little more than state-sponsored homicide.

If risk reduction were the sole or even the primary goal of life, there would be no human life at all, and in particular there would be no economic life.

Thus cleanup decisions, like all other decisions, are never made solely on the basis of net risk reduction or a balancing of risks, but always involve other political values and goals.

Risk, whether from contamination, from cleanup activities, from hostile attack or from the measures we take collectively in the name of “defense” or “national security,” needs to be viewed in proportion to other risks, and especially in relation to the *sum* of all risks. The risk of death for each individual is unity – a complete certainty. As far as death is concerned (the usual central concern of “risk assessment”), all decisions in any sphere, including decisions about cleanup, national security, etc. can only change the time, place and manner of our death, not its probability.

Translating, cleanup decisions, then, into a context in which we focus on life, rather than one concerned with death and motivated by the fear of death, we can say that cleanup decisions are embraced not just in order to allow people live longer, but also in order to change the content or experience of life, as well as its meaning. Cleanup involves *the living landscape*, a tapestry woven of both fully human and fully non-human elements, involving our history as well as our hopes. Cleanup, or failure to clean up, changes us as well as the land. Drifting forward through the decades, as we have been doing, is also a kind of decision, and will change us as well.

Cleanup decisions, like other important personal and public decisions, change our relationships to past and future generations. Such decisions are in this sense fully *historic* and *cultural* as well as environmental.

I’d like to say more, and say it more rigorously and fully, but can’t, not today. So skipping past more rigorous and better-reasoned preliminaries than appear here, I want to say that struggles over cleanup at LANL involve, among other things, a hidden cultural struggle over the meaning of nuclear weapons and nuclear careers (past, present, and future), and over the pollution that results from both. Especially: does that pollution truly *exist*, requiring action and investment on our part, or does it not exist – that is, is it trivial and forgettable? This is not an objective problem, but involves a political process based on value choices in which there are very clear

material winners and losers. That is why so much money is being spent by DOE and NNSA to fight cleanup. What is at stake is quite momentous, for them as well as for us.

The political function of the extensive "scientific investigation" process outlined in the NMED Order, should it stand, is to provide a way to postpone and to hide that political process behind a veneer of pseudo-scientific obfuscation and hence respectability, given our largely scientifically-illiterate society, while completely disenfranchising citizens. That is the political function of risk assessment generally, why risk assessment studies, as well as the ideology pseudo-quantitative mystification that lies behind them, is so lavishly funded by corporate and national security interests around the world.

In 1990 I wrote a small essay, exploring in a simplistic way the encounter between pro- and anti-nuclear cultures in New Mexico. That essay is appended at the end of the current remarks. It concludes:

To remediate sites contaminated from nuclear weapons design and production requires not just a physical stabilization or containment, but a transformation of purpose as well. The damage done is mythic as well as chemical and physical, and requires a heroic response. The earth of Los Alamos, and the history of Los Alamos on the earth, cannot be reclaimed if it is not also redeemed. This will require a conversion, not just away from weapons work, but toward a new calling altogether. In that day, and not before, joy will truly return to this place, and people will no longer be frightened of the wind.

4. End the financial dependence of NMED on DOE

There are basically only two good ways to fund the regulators and more than make up for DOE's conflict-of-interest-generating payola. One is for the legislature to appropriate the money. Probably this would occur as part of a general awakening as to the value of government in general – a reverse of the hostility to government we now see, which hurts New Mexico even more than it does most other states.

The second is for NMED to charge a fee for regulatory activities directly to the regulated parties. This fee must apply to all who are regulated in order to be equitable and to avoid constitutional challenge under equal-protection principles. The simplest and fairest way to administer it is probably by the hour, the normal way of doing business in the world. Facilities will have just one more incentive to obey the law.

As the situation stands today, enforcement is extremely expensive for NMED, prohibitively so in most cases, especially where facilities with large resources challenge NMED's authority. This breaks down the regulatory structure, quite apart from DOE and its virtually-unlimited resources. NMED needs a proportional, structural incentive to comply with its regulations.

This arrangement would also lead to both greater economic efficiency and equity, as non-compliers would pay the marginal cost of noncompliance, and that cost would not be shifted to the tax-paying public as an externality in the form of taxes.

5. Publish everything already “known;” do modest, appropriate analysis of existing data

- Publish everything that is known – everything – from all previous studies at Los Alamos in a management- and citizen- friendly format on the web, including all unclassified data, and make everything available in active GIS files. No one, and certainly not NMED, has access to the pertinent data now, even though in theory it is all available at LANL. This is a major project, and will involve the creation of meaning and memory through organizing what is “known.” In fact, it is *not* known because it is not known by anybody, and cannot be used by anybody, not even LANL. The redaction of mountains of data into specific cultural meaning is a political process. That is why the files must be active, manipulable files. It is entirely inappropriate for the data to lie with the polluter and be doled out in patronizing manner to genuine, legitimate authorities.
- For that matter, all unclassified information at LANL, of essentially all kinds, should be available to all. Hiding public information in a democracy is like sticking one’s head in the sand. It fosters not just blindness with respect to specific decisions, but also what might be called a culture of “institutional autism,” crippling the institution and destroying it for most intents and purposes. In the final analysis such a policy contributes nothing to security. Activities which, if revealed, might have catastrophic consequences to the host society should not be done at all.
- For contamination already in underground waters, provide a summary by mass of each contaminant by aquifer for each surface watershed, with associated data quality and numerical bounding studies. Use existing data only.
- For all contaminated sites, using existing data only, prepare a geocoded database with the estimated mass of each contaminant at each known location, dividing larger contaminated areas into subareas as necessary. Include other pertinent ranking information, such as erosion potential (this assessment is mostly done already) and the maximum concentration of each contaminant present in this database. Tying this database to an active map is a straightforward and inexpensive process; most of this work is already done.
- For floodplain areas, using existing data, prepare, for each contaminant and for each watercourse, a volume/mass curve showing the relationship between the volume of earth materials in that floodplain and the contaminant mass which is contained in that mass. Detailed mapping, led by LANL scientist Danny Katzman, has only been done for some floodplains. It should be completed for the Mortandad Canyon watershed, and further investigations in other canyons conducted if merited by the total amount of contamination present in that canyon. But first use the data already available.
- Assume that the *immediate* hazard from each and every contaminated site at LANL is acceptable.
- Using existing data, rank-order all contaminated sites at Los Alamos in terms of their short-term hazard – over the next, say, 30 years. Assume access controls remain intact that long, so

that the hazard from LANL sites is evaluated at the fenceline. Do not attempt to compute absolute risk. Just tentatively order the sites. Spend about one week on this process, no more.

- Using existing data, rank-order all contaminated sites at Los Alamos in terms of their long-term hazard, based on assumptions of pervasive access by the public to the surface of the site as well as to the shallow subsurface (up to 100 feet deep). Assume residential and agricultural land uses, and assume that humans may mine or otherwise disturb disposal sites. Assume there is no memory of disposal, no LANL, no State of New Mexico, and no United States. Do not attempt to compute absolute risk. Just tentatively order the sites. Spend about one week on this process, no more. Long-term hazard will be very closely associated with contaminant longevity, hazard per unit concentration, and mass present at each site. It will be insensitive to site location and to all other factors. Use no discount rate; a child killed in 2400 counts the same as a child killed in 2100.
- For the top ten sites in each list, compare absolute hazards, using the assumptions given or something similar.
- From the above analyses, all of which are easily done, it will be seen that the integrated long-term hazard at the worst LANL sites is much greater than the short-term hazard from the worst LANL sites (those sites being, as they are, under strict access control). It will be seen that the long-term hazard is closely associated with contaminant mass, toxicity, and longevity. Using these factors, then, together with the certainty with which they are known (or not), rank all LANL sites by long-term hazard.

6. Meanwhile, halt land disposal at LANL

- Halt land disposal of new nuclear waste at LANL. Any hope of cleanup is largely absent without this step. This should be done because:
 - LANL's dissected mesas have no sites suitable for nuclear waste disposal;
 - DOE has access to far better disposal sites, both those it owns (e.g. the Nevada Test Site, with far better environmental conditions) and those it has under contract (e.g. in Utah, at a site without potable groundwater);
 - shipping waste will require careful packaging and certification, which is not now done, and which will cause "upstream" pressure on waste generators, in effect internalizing externalities in waste generation decisions;
 - off-site disposal will, according to knowledgeable insiders, be significantly cheaper than disposal at LANL; and most of all
 - the programs which generate nuclear waste at LANL have, for the most part, negative social value in themselves and should be gradually shut down, greatly decreasing the volume of waste in question. This single step alone will "clean up" – i.e. prevent – approximately half the pollution at LANL by 2100, relative to options involving continued disposal.

It will be argued that NMED has no formal brief to even call for a halt to radioactive waste disposal, let alone radioactive waste generation. This is true, except at areas G, H, and L, over

which NMED holds permitting authority, including closure and post-closure provisions among others. Yet Secretary Curry has a broader mandate, even a legal mandate, than the sum of all the specific laws and regulations he must enforce, let alone RCRA and the HWA by themselves. Given the current and planned role of the nuclear industry in the state, Secretary Curry cannot do his job and remain silent on the subject of shallow land disposal of large quantities of nuclear waste in an unregulated landfill, located on a dissected mesa above springs and streams. His job responsibilities exceed those of the Hazardous Waste Bureau, which indeed must stick to its RCRA and HWA knitting.

Mr. Curry serves at the pleasure of Mr. Richardson. He cannot provide leadership if Mr. Richardson does not allow it. More broadly still, halting permanent damage to the state from shallow nuclear waste disposal is the responsibility of both the Governor and Legislature, whose jobs it is to articulate a consensus of values which protect the state's environment and provide for the proper development of the state's society and economy. To do this, regulation is not enough. It never has been enough. The entire evolution of our environmental regulatory apparatus has been, from the beginning, a very partial response. Without leadership from elected representatives, leadership expressed in new law and decisive executive action, regulatory structures turn into fossils, eventually unable to accomplish even rudimentary versions of the tasks originally set for them. This failure is usually not apparent until it is revealed by some sudden crisis or disaster. In the present case, Governor Richardson has allowed NMED to waste its time and talent defending lawsuits that the Governor himself should have condemned loudly and clearly and worked hard to vacate. He could have succeeded, perhaps easily succeeded. In fact, he should have forestalled those lawsuits, and it may be the absence of any response from the Governor to the first lawsuit, filed only by UC, that emboldened DOE, NNSA, and the Justice Department to file more lawsuits. But Richardson never even tried. We know this because all the primary means he had for defeating this challenge to New Mexico involve media exposure, and it never happened.

With gubernatorial support, Mr. Curry, together with Secretary Prukop of Energy and Minerals, could and should now convene, with nonprofit help, a conference that begins with the premise that further nuclear waste disposal in New Mexico is anathema, and that nuclear power as well as nuclear weapons deserve the highest possible level of scrutiny. Since Senator Domenici has articulated a vision of a "nuclear corridor" in New Mexico, and since various corporate nuclear interests now view New Mexico as a possible playground, it is long past time for Mr. Curry to use the *authority* of his office, in addition to his specific regulatory powers, to hold these large capitalist forces to bay. Let them go to China and create huge profits and executive salaries, if she will let them.

It will be argued, again, that this is politically impractical. I think we need to examine whether our survival as a species, whether our humanity, whether avoiding massive loss of species, whether avoiding the untimely deaths of millions of people – whether all of these and many more things are in fact politically impractical. Something is wrong with our notion of practicality when it excludes our very survival.

Why aren't more environmentalists saying this? I am afraid the environmental movement has been domesticated. A taste of power, status, and popularity on the one side, and of penury and

want on the other, have tamed too many. Is it not time to search the wellsprings of the movement that created the environmental norms we now enjoy – such as they are – and ask, with our whole lives, “Is this enough?”

Without this kind of searching questioning, public risk-taking, and personal commitment, there will be no halting of nuclear disposal at LANL – and certainly no real cleanup.

7. Decontaminate and demolish the old buildings

There is no excuse for keeping contaminated buildings in place for years, even decades, like haunted ghosts. They are dangerous, and they should be removed.

8. Remove the largest contaminant masses

Beginning with the highest-ranked sites, excavate and remove contaminants, separating them from the surrounding matrix and directing them to WIPP, to the Nevada Test Site, to chemical treatment and/or disposal elsewhere, to treatment at LANL (e.g. vitrification), to appropriate packaging, and so on. Some portion of these wastes should be re-interred at LANL. This can be done by hand and by robot, and in important cases it must be done indoors. Transuranic (TRU) wastes should not remain buried at LANL.

This will be expensive, but it need not be very dangerous. As mentioned before, lots of things are dangerous (e.g. mining, construction, nuclear weapons). Recall that the U.S. has spent \$7.0 trillion on nuclear weapons, or \$100 million each, representing an enormous opportunity cost in lives, alternate national security possibilities, and potential for this country. We know how to sacrifice. There is no reason why those who are creating this mess should not be the ones who actually dig it up – if they want a job in New Mexico, that is.

9. Address the canyons

It will be necessary to conduct a hazard assessment for canyon contaminants. Perhaps this has been done. It must be assumed that everything in the active floodplain will wash into the Rio Grande, so contaminants can be studied in the aggregate. Are the canyon sediments a potential problem downstream? Perhaps. I don't know, and so must assume so. It may be necessary or prudent to remove all contaminated sediments in the highest contamination classes from the canyon bottoms, especially those soils containing PCBs and mercury, which bioaccumulate.

10. Prevent further groundwater contamination and remediate groundwater, beginning with the shallowest

Based on total contaminant mass in water and earth, rank locales of groundwater contamination (if there is no discount rate for future morbidity and mortality, no threshold for toxicity, and no site boundary and hence no further adsorption pathway, hazard is pretty much proportional to mass). For Mortandad and some other canyons, it will probably necessary to take aggressive steps to actively remediate the waters of the shallow aquifers, including all measures necessary to redirect run-on and other discharges, even if “clean.” If necessary, remove all alluvial

groundwater. Treat this water and discharge it, say, below the surface of the relatively dry mesatops.

For the intermediate aquifers, there are basically two options: Pump and treat, or do not pump and treat. For intermediate aquifers not upgradient from drinking water wells, set aside this question while aggressively remediating the shallow aquifers which supply water and contaminants to them. For intermediate aquifers which could threaten drinking water wells, estimate the cost of remediation in conjunction with the shallow aquifers.

11. Keep going until the money runs out

12. In conclusion: ritual cleanup

This sketch is inadequate in the extreme. It is necessary, however, to offer in one place, however inadequate, a précis of some of the conversations and correspondence I have had for some years with various NMED, DOE, and UC staff members, because I am quite critical of the plan now being offered. It won't accomplish much of any value, and it's not designed to accomplish much.

What we will get from this Order is a kind of ritual "cleanup" conducted by excellent environmental professionals that removes the onus of contamination without actually requiring removal of much, if any, contamination. DOE and LANL cannot absolve themselves. NMED can and therefore must do it. For that, we need a formal process, a ritual, something with a beginning, a middle, and an end. And it can probably be sold as an environmental "success" by the Governor's office, when it actually represents a near-total failure on his part, much more so than by NMED, which cannot address LANL successfully without his leadership.

It is the imputed authority of the authors that does the purifying trick in the ritual cleanup. Magic reports of a prescribed format will be waved over the mesas at precisely specified intervals, holes will be drilled and samples taken. There will be an illusion of control. Spreadsheets of estimated risk will blossom from a hundred computers, and imagined cleanup options will be implemented on softly-lit, high-resolution monitors, all without dirtying a shovel. There will be no worker risk, apart from ennui. Paychecks will be signed, whole flocks of them flying into hands all over the mesas and down to Santa Fe, and children will grow up and go to college. Many press conferences will be held by many successive NMED leaders, and employees will be hired, fired, and grow old taking samples, calculating risks, and submitting precisely specified reports between now and 2015.

Real estate will be transferred and ribbons cut on new buildings, built on contaminated land under "long-term" brownfields protections that will be forgotten in a few decades after some tumultuous social and political crisis, if not long before that.

Within our time, the LANL weapons programs program will be absolved from its environmental sins, even as the actual long-term environmental hazard increases steadily and unceasingly, like a stain spreading across the mesas, first filling this one, then that. Every day, the trucks will lumber down to TA-54, carrying more drums; every year, new pits will be dug and filled.

With this Order mediating between the hope for cleanup and its receding likelihood, it is meaning and memory that are to be remediated, not the ground. To drift, in this matter, is to forget. Milan Kundera famously said, "The struggle of man against power is the struggle of memory against forgetting." We are supposed to forget, and then we will feel so much better.

What is in danger of being forgotten is not where the waste is buried, at least not at first. What is in danger of being forgotten is something else. Bertrand Russell said, "Remember your humanity, and forget the rest."

Postscript: "How to Understand Anti-Nuclear Hysteria"

Winter, 1990, Greg Mello

In February and early March the Department of Energy held a series of four public hearings concerning the scope of the environmental impact statement for its proposed new plutonium research and development facility at Los Alamos National Laboratory. Hundreds of people attended these hearings, which in each case extended late into the night. The content of the presentations was, on every evening, overwhelmingly negative toward the DOE's proposal.

These hearings, it should be noted, were not the first hearings in Santa Fe concerned with nuclear issues. In the past year, we have had hearings about WIPP, hearings about the incineration of radioactive waste at LANL, and hearings about the investigation and possible cleanup of disposal sites at LANL. At all of these hearings, a dominant theme of public comment was the possible health effects of the proposed nuclear activities. (This was, of course, not the only dominant theme, especially in the recent hearings, when many well-articulated economic, political, and moral issues were raised.)

It is very clear that some of the people who are most alarmed about these health effects know very little of the details of nuclear safety or health physics. The concerns and fears they express often seem disproportionate to the actual facts of the case at hand. Some scientists have even remarked that they see an inverse relationship between nuclear knowledge and nuclear fear. Leaving aside the many points made at these hearings which made some sense to everyone, including some very valid and scientifically-sound points about health risks, how are we to understand the more "far-out" health concerns? Are these concerns just naive? Are these people just "anti-nuclear weenies," as Vernon Kerr put it?

I doubt it. First of all, there is the striking fact that our nuclear weapons research and production facilities--overseen by supposedly well-qualified technical experts--are, in almost every case, severely contaminated. Hundreds of tons of uranium dust wafting into the Ohio sky, millions (yes, millions) of pounds of mercury released into streams in Tennessee, vast areas of the Snake River aquifer contaminated in Idaho, unknown numbers of pounds of plutonium oxide dust released into suburban Denver, the intentional secret release of thousands of curies of iodine-131 in Washington, an experiment which heavily contaminated parts of three states--all this and much, much more has been done by experts employed by the DOE. The historical record unfortunately shows that nuclear safety scientists employed by the DOE have simply been untrustworthy.

It is not just that these events occurred--that would be bad enough. What is worse is that all this took place amid a constant refrain of denials that anything dangerous was happening--in most cases, even, denials that anything dangerous could happen. I used to think that, in past decades, people just didn't know better. But the record shows that many of these nuclear experts certainly did know better, and that individuals of integrity who complained were usually silenced. The DOE and its predecessor agencies have for decades practiced an intentional policy of secrecy and coverup, a policy in which betrayal of the public trust was rewarded and from which contamination was the inevitable result.

This coverup is not something that happened elsewhere. Many of the most contaminated DOE facilities--including the Y-12 Plant in Tennessee, the Rocky Flats plant near Denver, the Savannah River Facility in South Carolina, Pantex in Amarillo, and others--were overseen by our own DOE office in Albuquerque. And neither are coverups a problem only for the DOE, something that couldn't happen at, say, Los Alamos. According to the March 9, 1990 Albuquerque Journal, a federal researcher this month told a panel in Washington that he was pressured to alter the conclusions of his epidemiological research which found significantly elevated cancer rates among workers at Rocky Flats. He was told to do this by a deputy director of the Los Alamos National Laboratory.

Stories like this have been in the newspapers practically every week for many months. I, for one, am forced to draw a somewhat paradoxical conclusion: the anti-nuclear crowd--who certainly do not know the details of health risks as well as the technicians--may be more in touch with the "big picture" than are many of the "experts." The concerned citizens, it appears to me, are often more correct overall than they are in the details.

How can this be? It may be that the matters at hand have more to do with political science than with nuclear science, and more to do with history than with half-lives. And beyond this, it may be that nuclear decisions inevitably and rightly are symbolic as well as factual, and that--God forbid--imagination may have a rightful place in the discourse. For who can doubt the importance of the imagination, where nuclear weapons are concerned? Many a weapons scientist will assert that these weapons are made so that they will never be used, meaning that the imagined effects of explosions--explosions in the minds of the adversaries--are what ultimately count. "Imagination," Einstein once said, "is more important than facts." The psychological and political effects the weapons engender are, in fact, their hoped-for use. Throughout strategic discourse, imagination and symbol interweave with so-called "objective" reality, each influencing and creating the other. We and the Soviets, each "thinking the unthinkable," create and sustain our nuclear world.

In this broader context, the intuition and experience of the general public is, in fact, very well qualified. It is precisely on the larger questions that many of the nuclear technicians and scientists rightly fall silent, knowing on the one hand that their narrow expertise gives them no particular claim to historical or political wisdom, and on the other hand knowing that they have a conflict of interest. For not only are they rewarded for supporting "the program," but they know (and clearly imply in conversation) that they will be disciplined if they speak out.

But I think there is a great deal more involved in citizens' health concerns surrounding defense nuclear activities than just the objective health risks, coupled with a reaction to past bad faith and contamination. To look at this further, imagine two somewhat idealized or caricatured groups: the dyed-in-the-wool nuclear technicians, on the one hand, and the anti-nuclear zealots on the other. One group, we postulate, has faith that their technology and the programs of their employer will keep any public health or environmental threats well below acceptable limits. The other group does not want any chemical or radioactive contamination (or risk of contamination) whatever, no matter how trivial.

Each group, we may notice, is the shadow, in the Jungian sense, of the other. Each expresses

what the other does not and so each completes the other. But neither side, it seems to me, understands the other.

The technicians' truth is logical, and it is proportionate. It is logical to say, for example, that 0.1 or 1 or 10 millirems per year resulting from some nuclear activity is far less than a background dose of 125 or (with radon) 325 millirems per year. Aside from the doses themselves, the risks involved in these small doses are dwarfed by the inescapable risks to which we are subjected daily in our lives, plus whatever additional lifestyle risks we choose for ourselves as well.

This is a simple and pure way of reasoning. It is unassailable. It is the logic of addition and subtraction. A child can understand it. It is a form of thinking made dominant and indeed nearly universal in our time probably not so much by physical science and its practical achievements as by business, by the necessity of living in a world permeated by economic markets mediated by money. (But surely money has nothing to do with all this, right?)

On the other side, the hysterical zealots' side, a different logic prevails--so different in fact, from the technical point of view, that "logic" seems too kind a word. But logic it is, though of a different order. For these people, reason must stand aside for what they perceive as Reason. They sense, in the very core of their being, truths which the emotionally and spiritually-impooverished discourse of our time allows only a most imperfect expression. It is as if their--and our--psyches, our souls, are instruments of a most sensitive kind, which can perceive events that cannot otherwise be measured: the motives of actions, the tilting and sliding (as it were) of the great historical themes, the subtle changes in *Zeitgeist* of which we are in our daylight moments only dimly conscious. While the scientist has schooled himself to discern what is objectively verifiable (and therefore "true") from what is not (and therefore humbug), his training per se has not prepared him to understand what is important.

The differences between these two groups are so great that the political encounter between them is a collision, not just of interests, but of two widely differing (and, to each other, largely incomprehensible) realities. It is a contest between two incommensurable truths, a struggle not just between different values, but between very different ways of choosing what is valuable. The assumptions of each group differ so widely from each other that their common ground can be difficult to see. There cannot be, in such a case, any "objective" solution to who is more "right." Mary Douglas and Aaron Wildavsky describe this situation:

Choice depends upon alternatives, values, and beliefs...Values and uncertainties are an integral part of every acceptable-risk problem...There are no value-free processes for choosing between risky alternatives. The search for an "objective method" is doomed to failure and may blind the searchers to the value-laden assumptions they are making...[The issue is] who should rule and what should matter.

The question of "what should matter" is, in this case, not just a choice pertinent to any particular nuclear waste issue but is, I believe, also an increment of a historic choice of major significance, a kind of watershed for our culture. The choice of "what should matter" is a choice not just of a particular outcome but of the ground rules for all future contests, a choice of context as well as

content. It is a choice of what sort of evidence is admissible to the public debate about nuclear waste, and many other debates as well.

For what the antinuclear zealots sense is, perhaps, not just the pollution of DOE sites and their surrounding areas, the permanent poisoning of the land, the decades of secrecy behind which these activities have taken place, all of which are facts. I believe their response is also and above all to the toxic intention that has built these institutions, an intention which can fairly be called poisonous, and which grows more plainly so every year. I am referring to our intention to devise weapons that will enable us, if necessary, to kill--and not just soldiers, but to kill broadly and widely: women, children, animals, plants, the land, the future. This intention--so horrific, so repellant it cannot be fully grasped--is what lends to its byproducts and special materials an overweening toxicity that transcends the ordinary sense of the term. It throws a shadow over the land that is darker, much darker, than the plume of any incinerator or exhaust stack, and which rightly inspires terrific fear. To kill, to destroy, to lay waste, to prevail--all, of course, only "if necessary:" we throw this intention forward into the future like a spear and it falls back bloody upon us and our children now, both as physical wastes (the smallest part, it will someday be plain) and as our own doom. Intending to kill others in the body, we kill ourselves in spirit, and our decline presently unfolds all around us.

It is, the zealots may be saying, as if our attempt to filter out and isolate ourselves from the toxic by-products of our intention is ultimately futile. Aren't they saying that though we may survive, we cannot truly live, with this intention carried on the breeze? Aren't they saying that, if they do not speak their hearts, the spring wind will no longer be fresh to them and they will not be partners in its promise of renewal? Aren't they saying that no matter how oh-so-squeaky-clean we want to keep our lovely towns, in this our beautiful place, we can no longer do so? When shown a modern piece of plutonium technology, don't they see it as part of an effort that was itself obsolete many years ago? What to some appears to be the cutting edge of weapons science, to them just seems cut off: cut off in time from history, solving the crises of 1943 all over and over again, and cut off from the urgent cries of a world--our only world--in pain. They will not be hoodwinked, as they see it, by measurements and predictions that, however truthful they may turn out to be, are ultimately irrelevant. Their concern is not about amounts; it is an attempt to cast out of their lives, and to keep far away from, what in another time would be called, simply, evil.

The social and political discourse of our time provides for these concerned citizens and for all of us no true public hearing, no true telling of this fear and grief. So it spills out in what channels it can, and I for one cannot call it inappropriate. For here we are dealing not just with pollution--something in the wrong place, as anthropologist Mary Douglas said--but with defilement, with substances that in many people's view should not exist at all. No surveillance instrument will ever be able to gauge this defilement or allay this fear.

Somehow these concerned citizens sense that nuclear weapons--weapons which lie by their very nature outside the moral and even the legal canons of our civilization--are genocidal. Developed in response to the genocide of fifty years ago, they bear an ontogenetic relationship to it. They are our moral legacy from Nazism, a kind of necrophilic inheritance. From out of the dark shadow they throw across this land and our future, one can hear Hitler's last laugh, but without a

foreign accent. The concerned citizens want no part--not any--part of this.

Ultimately, it is not a question of safety at all. The lives of the anti-nuclear activists are not safe and they well know it. Safety is not what they ask for. They are asking for life, for its pains, risks, pleasures, and for a future. They want a life that is rooted in the earth, in its seasons, in their senses, a life where woman and man--and not machines--are the measure and the end of their shared labor.

In any case, the anti-nuclear zealots do not understand how background radiation doses can be compared to those from nuclear technology. It is, to them, like comparing apples and oranges. You may say "But either can make you sick or kill you just the same!" Not so; deaths are hardly equivalent in their meaning, just as lives are not. To say they are reduces life to a statistic, to not-life; even to compare these two doses is, in this view, an affront. As if the risk which obtains from breathing radon in one's home, something one does in the course of family life, living in eros, in the generative and productive life, could be compared to an accidental death from contamination incurred by nuclear weapons work. It is a mark of how far we have slipped, the degree to which an obsession with quantity has taken over our minds.

All of this bears centrally on the problem of remediating the contaminated legacy of LANL's past. To remediate sites contaminated from nuclear weapons design and production requires not just a physical stabilization or containment, but a transformation of purpose as well. The damage done is mythic as well as chemical and physical, and requires a heroic response. The earth of Los Alamos, and the history of Los Alamos on the earth, cannot be reclaimed if it is not also redeemed. This will require a conversion, not just away from weapons work, but toward a new calling altogether. In that day, and not before, joy will truly return to this place, and people will no longer be frightened of the wind.

July 31, 2002 **Hand-delivered**

Secretary Pete Maggiore
New Mexico Environment Department
Harold Runnels Building
1190 South St. Francis Drive
Santa Fe, NM 87502-6110

Re: Comments on the Draft Corrective Action Order (draft CAO, or simply CAO) Issued by the New Mexico Environment Department (NMED) on May 2, 2002 under the Authority of the New Mexico Hazardous Waste Act (and implicitly, the Resource Conservation and Recovery Act, or RCRA) regarding Los Alamos National Laboratory (LANL)

Dear Mr. Maggiore -

Thank you for the opportunity to comment on the draft CAO. We have been studying the CAO and closely-related documents being promulgated by the NMED since early May, and have both comments and questions.

The CAO is a fragment of a larger agency decision-making process, which is secret

It is not easy to understand the complex tableau of agency decisions now in process, some of which are open to public comment and some of which are not. We do not fully understand either the law or the facts, and yet we must comment, in this venue and others, with what knowledge we have, because of the momentous decisions your agency is making - or perhaps has already made.

The fragmentation of these decisions, and the uncertainty regarding which decisions have and have not been made, is itself a matter of serious concern. It appears to be contrary to both hazardous waste law - in which the facility permit is the integrative

locus of obligations at permitted site, barring an emergency - and good administrative practice.

This fragmentation is analogous, we might say, to fragmentation of projects and environmental analyses under the National Environmental Policy Act (NEPA). The decisionmaker, whether in an agency, in the public, or at the facility, cannot fully understand the scope of the decisions to be made when those decisions are artificially fragmented into a multiplicity of processes and venues.

We therefore appreciate your careful consideration of these comments and questions. Given the opacity of the processes underway at NMED, we also request your prompt reply.

First, please incorporate the following attached comments to this letter by reference. It may appear that some of the comments are directed to other documents, but we believe that NMED is making agency decisions regarding the actual work that might be done pursuant to actions taken in the CAO in a number of parallel processes, which are only formally separate from the CAO itself, which are evidenced by these documents. Some of these comments can be found at <<http://www.lasg.org>>.

- Los Alamos Study Group Press Advisory, May 8, 2002, Johnson administration Environment Department fails again to require Los Alamos cleanup; sets course for cleanup failure.
- Joint May 28, 2002 letter from 17 New Mexico environmental organizations to Attorney General Patricia Madrid expressing concern about the "Letter of Intent" then under negotiation by your agency, which was later signed on or about May 30, 2002. (Includes June 3,

2002 addendum.)

- Los Alamos Study Group, July 8, 2002, "Very Informal Comments on the May 31, 2002 "Letter of Intent" Signed by the New Mexico Environment Department (NMED), the U.S. Environmental Protection Agency (EPA), and the Department of Energy (DOE): "Meeting Environmental Responsibilities at New Mexico DOE Facilities"
- Los Alamos Study Group, July 10, 2002, "New Mexico Environment Department Sells Out"
- Los Alamos Study Group, July 18, 2002, "Brief Notes to the Administrative and Legal Processes Underway which Affect the Continuing Disposal of Nuclear Waste at Los Alamos and the Prospects for Cleaning Up Contaminated Sites There."
- U.S. Senate, July 24, 2002, "Report to accompany S. 2784, Energy and Water Development Appropriation Bill, 2003," (relevant portions)

Another way of saying this is that we believe the Administrative Record (AR) prepared to support the CAO is incomplete. We believe it should include at least some of the documents referenced in the above comments, for reasons already stated, together with the negotiating record that has led to them. This would include the documents supporting or recording meetings concerning the "High-Performing Teams," any and all "Accelerated Cleanup" proposals in which your agency has taken part (a process condemned by the relevant committee of the U.S. Senate), the "Performance Management Plan(s)" and the "Letter of Intent," at a minimum. All these documents appear to be part and parcel of permit decisions which are being

hidden from the public, not at random but in order to obtain particular permitting outcomes. It is for this reason that we have requested some of these documents from you, but we have received neither any of these documents nor any schedule under which we might expect to receive them.

It cannot be emphasized enough that these other documents, some of which carry the imprimatur of the NMED, purport to replace any and all the decisions, toward the making of which the research to be conducted under the CAO would, in theory, apply.

The CAO is a permit action, both procedurally and substantively

The content of the CAO comprises, from every point of view, a very significant modification of the LANL operating permit - assuming for the moment that long-expired, but administratively-continued, permits *can be* modified. (If an expired, but continued, permit cannot be so modified, then the content of the draft CAO should properly be a draft portion of a *new* draft permit.) In either case, the content of the CAO is a major permitting decision being taken by NMED. As such, calling what are, in fact, permit conditions a "CAO" avoids the due process otherwise available under law for both the facility and the public, which includes formal public hearings. These hearings function both as a fact-finding forum and as a formal record of the same. In addition, the public has standing to compel permit compliance, whereas it appears that the public has no rights whatever to bring enforcement action pursuant to the CAO.

In effect, NMED is using the ruse of the "CAO" to insulate itself and LANL from meaningful public and agency participation in at least four direct ways, which correspond to four different time

periods:

1) (*After proposed, but prior to final, agency action*) NMED is apparently promulgating the CAO with a public participation process which appears to be entirely voluntary on NMED's part, with no statutory or regulatory requirements, as opposed to the strict requirements that would apply if this were admittedly a permitting decision;

2) (*Just after final agency action*) NMED, by choosing to base the CAO not on permitting statutes and regulations but, inappropriately, on an investigative section of the Hazardous Waste Act (HWA, § 74-4-10.1), NMED has removed, or so it appears at this reading, any specific statutory or regulatory right of appeal for the final agency action;

3) (*After final action, during the compliance phase*) NMED, by placing the CAO and therefore most of the "cleanup" work to be done at the site outside the permitting process, has apparently also removed that work from the citizen enforcement provisions afforded under RCRA and the HWA, in which citizens have explicit standing at law to compel compliance with permit conditions; and finally

4) (*Prior even to the proposed action*) NMED, by setting virtually at naught the entire history of efforts by citizens and government alike to compel cleanup at LANL in favor of yet another *de novo* investigation, has also in effect wiped out some 17 years of joint compliance efforts, including literally hundreds of public meetings from 1989 to the present, at many of which specific cleanup proposals were discussed and debated. In addition, the Study Group alone has participated, over the past 12 years, in dozens of meetings with NMED officials at which technical considerations for cleanup have been discussed, often with considerable

preparation. Through NMED's *de novo* approach, this and other prior expert public participation is also being, in effect, consigned to oblivion. NMED, in its CAO, is not advancing cleanup, but - deliberately, as it appears - retarding it.

What underlies especially this fourth abridgement of due process is not only legal and procedural, but also technical and substantive.

After careful budgetary reconstruction, the Study Group has determined that the facility has spent \$701 million in its cleanup ("environmental restoration") program so far - attempting, however inadequately, to address the contamination present at the site. This work has produced a great number of field studies and analyses, with which your staff is reasonably familiar. They fill a small room. Likewise, Study Group employees and interns have also reviewed much of this material, over a period of many years.

Much, therefore, is known about this facility, more than is known at most - maybe all - hazardous waste sites in New Mexico. Much is known about every aspect of the site, about the contamination present, and even about what to do about it.

In particular, the approximate relative risks posed by various contaminated sites are, in general, known, as are some of the possible remedies at various sites. The absolute risks are, by contrast, *neither known nor even knowable, and it is this road that the CAO chooses.*

In many or even most cases, more detailed knowledge will be very costly, will be itself intrinsically fragmentary due to site heterogeneity. It will create "holes" that may be conduits for contamination at the site, and it will be, in most cases, largely irrelevant to remedy selection. The

attempt to adequately characterize the complex geohydrology at LANL - adequately, that is, for defensible predictions of waste constituent migration over long distances from a given location - will simply fail. The range of potential risk at some of the important sites, like Area G for example, is so dominated by events which will or may take place at the surface, for which investigations along the lines chosen in the CAO are largely irrelevant.

In our view, it is past time to proceed with comparison of remediation strategies at the most problematic, largest sites, and to proceed directly to corrective action at most of the smaller sites. Some of the investigations proposed in the CAO will no doubt cost more than removal of the contamination.

What is more, it is often most cost-effective to combine investigation and removal or other remediation, particularly in the case of shallow aquifers and sediments.

To sum up this general point, the CAO has abridged statutory due process in favor of conducting further research that is in many cases logically and scientifically fallacious, and largely irrelevant from an engineering (i.e. risk reduction) perspective. NMED is ignoring the law because it is also ignoring the science. To say it another way, NMED is trying to duck good law in order to do bad science and bad engineering. This is not in the public interest and we believe it is not in the interest of the facility, either.

Thus we believe that the University of California (UC) is correct, in its suit filed against NMED on Jun 2, 2002, in its fourth and fifth claims for relief (paragraphs 45 through 55 in its complaint) when it avers that its procedural (fourth claim) and substantive (fifth claim) due process rights have been

violated.

In fact you, Greg Lewis, Paul Ritzma, and Carl Will told us, on July 5, 2002 that the work required in the CAO would, in effect, take the place of an enforceable closure plan for areas G, H, and L of TA-54 in the forthcoming draft LANL permit. These closure plans are legally-required permit obligations - and are the subject of requests made to you by more than 2,000 people and 27 organizations, as well as by the Attorney General of New Mexico (this is an example of #4 above, ignoring prior public, expert, and agency input).

The present informal comment period is no substitute for what is legally required:

No ruling shall be made on permit issuance, major modification, suspension or revocation without an opportunity for a public hearing at which all interested persons shall be given a reasonable chance to submit data, views or arguments orally or in writing and to examine witnesses testifying at the hearing. (HWA §74-4-4.2 (H))

Detailed technical comments must await greater agency interest and clarification of what decision-making processes NMED is actually following

Last year, we offered comments to you regarding the general nature of the anticipated CAO. We knew little about the proposed content, of course, and were ignorant as well about the law you might base such an order upon. We assumed the CAO would be oriented toward cleanup, and be based on existing permitting requirements. (We were wrong.)

Our cardinal point, in any case, was that NMED should not ask for investigations in any CAO, there being ample other regulatory means for this. What NMED

has done is exactly the opposite of what we requested, which was supported by what we believed to be ample reasons given at the time.

We are flummoxed. We don't know how you are making decisions, or whether - unlike any time in the past year or more - you will include our input in your decisions. A detailed technical review of the CAO is an expensive proposition, and we simply can't afford to waste time and our supporters' funds if our analysis is not welcomed and valued. Every indication you have provided says it is not.

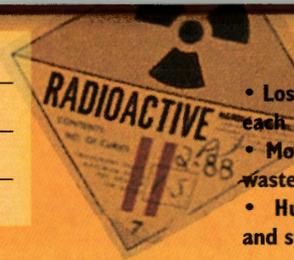
Sincerely,

Greg Mello,
Executive Director



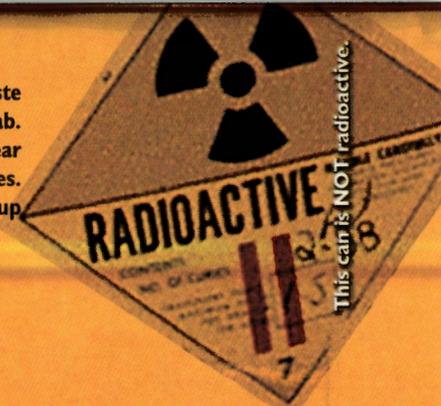
Los Alamos Study Group www.lasg.org

From: _____



45,000 MORE DRUMS EVERY YEAR

- Los Alamos generates 45,000 drums worth of nuclear waste each year, and buries 97% of this waste right at the lab.
- More than 18 million cubic feet of hazardous and nuclear waste are already buried in 24 Los Alamos dump sites.
- Hundreds of other sites at the lab need cleanup and stabilization.



Dear Governor ~~Johnson~~ *Richardson*

Los Alamos National Laboratory continues to dispose of large quantities of radioactive waste in shallow pits and shafts in its "Area G" landfill near White Rock, NM. I respectfully request that you, through the New Mexico Environment Department (NMED), close Area G to further disposal of nuclear waste. I request that NMED hold formal public hearings on the required closure plan and subsequent cleanup and stabilization measures, both for Area G and for all other nuclear and chemical waste disposal sites in Los Alamos. Please put me on the mailing list for these hearings and all other opportunities for public comment on disposal and cleanup at Los Alamos. Since nuclear weapons have failed to create security in New Mexico, ~~please~~ give this food to charities who ~~serve~~ the poor. Don't waste New Mexico's future!

Please deliver to:
Bill Richardson
 Hon. ~~Gary Johnson~~, Governor
 State Capitol Building
 Room 400
 Santa Fe, NM 87501

Sincerely, _____ [name and address above]

WE "CAN" STOP WASTING NEW MEXICO'S FUTURE

- Your request for hearings has weighty legal status under state and federal environmental laws. The state must listen – and respond. So your voice, if you use it, is powerful.
- Together, we "can" do it!

**FIRST IN NUCLEAR WEAPONS,
LAST IN CARE OF CHILDREN**

- New Mexico ranks #1 among the states in net federal spending, and yet...
- We are #1 in poverty and drug deaths, #2 in rapes, and #3 in growth of income disparity.
- Nuclear weapons haven't, and won't, bring economic renewal.

**NEW WEAPONS MEAN
MORE WASTE**

- Most of the new waste is from nuclear weapons design, testing, and production.
- Los Alamos wants to produce more plutonium "pits", the cores of nuclear weapons. The U.S. has 22,000 pits already.
- Why more? New pits for new weapons, likely to include "mini-nukes" for possible Third World use.

Dear CANpaign member: Here, and continued on the reverse, is a copy of the letter you sent to the Governor on your can. It is important – the state must eventually respond! We suggest that you keep this copy in your personal files.

Dear Governor Johnson: Los Alamos National Laboratory continues to dispose of large quantities of radioactive waste in shallow pits and shafts in its "Area G" landfill near White Rock, NM. I respectfully request that you, through the New Mexico Environment Department (NMED), close Area G to further disposal of nuclear waste. I request that

Yes, I sent "The Can!"

I am also interested in:

- Volunteering as a "Can-paign" team member
- Distributing "Can-paign" cans on commission
- Raising money for my organization by selling "Can-paign" cans
- Receiving information about Study Group activities via: mail email
- Helping the Study Group with other programs, including nuclear disarmament, environmental protection/cleanup, and building a "green" economy in New Mexico

Name: _____

Address: _____

City: _____

Email: _____

Telephone: _____

Let's not waste New Mexico's future!

Together, we "can" do it!

The attached postcard will provide your congressperson with some important information. Your postcard will be more effective if you follow it with a telephone call, inquiring as to whether action has been taken. Or drop by his or her local office to inquire and register your opinion.

For more information, call us at 505-982-7747, or visit www.lasg.org.

The "CAN-Paign" to End Nuclear Waste Disposal in Northern New Mexico



Economic Renewal ❖ Social Justice
Environmental Protection
Nuclear Disarmament

Sponsored by the Los Alamos Study Group
212 East Marcy Street, #10, Santa Fe, New Mexico 87501
www.lasg.org • 982-7747

Dear Representative _____

I would like you to investigate, and if possible, stop the continued growth in the Department of Energy's (DOE's) nuclear weapon programs. The budget for weapon design and production has been increasing every year since 1995, with no sign of stopping. These programs deserve more careful congressional scrutiny – of their purpose, cost, performance, and their compatibility with binding U.S. treaty commitments. These commitments include negotiations leading to nuclear disarmament (see the Nuclear Nonproliferation Treaty, Article VI, ratified in 1970), not new nuclear weapon factories.

One unnecessary project is the huge National Ignition Facility (NIF) in Livermore, which many experts say will never achieve its stated goals and is irrelevant to maintaining existing nuclear weapons. Another example is the roughly \$300 million being requested this year to help Los Alamos get ready to manufacture and certify new plutonium "pits," the cores of nuclear weapons. Allegedly, not one "pit" has been completed after hundreds of millions in investment and 7 years of work. What is being made is nuclear waste, thousands of drums of it, which is buried in Los Alamos and near Carlsbad, New Mexico. The U.S. has a huge, not to say obscene, arsenal of 10,500 weapons already, and many thousands of extra "pits" are in long-term storage near Amarillo, Texas.

Independent scientists and scholars say the purpose of these programs is less to maintain existing weapons than to design and produce new and modified weapons, including low-yield weapons tailored for Third World targets. Could you investigate and, if true, halt these outrageous plans?

Sincerely, _____

Date: _____

We "Can" Stop Wasting New Mexico's Future

The "Can-paign" has been designed to give busy people a way to help end nuclear waste disposal in northern New Mexico. Here's how it works:

- **Buy** "The Can" (only \$3.00!).
- **Write** your name and address on it.
- **Return** "The Can" to the seller immediately for FREE local delivery to Governor Johnson. (Or mail it yourself later using a \$3.50 stamp.)
- **Take** this brochure, and **mail** the postcards.

Your letter has weighty legal status under state and federal environmental law. By law, your government must listen, and respond.

Your purchase of "The Can" supports research and advocacy aimed at reducing nuclear waste generation and disposal, as well as nuclear disarmament. It also provides food for New Mexico charities, whose resources are strained by the social insecurity and poverty left in the wake of our nuclear/military preoccupations.

Official estimates place current annual waste generation *and burial at Los Alamos* at about **45,000 drums' worth per year**, with increases planned if the University of California begins production of plutonium "pits," the cores of nuclear weapons. New pits not needed for any existing weapons, but they are needed for some of the new weapons now being designed at Los Alamos, which include weapons specially-tailored for aiming at Third World countries.

Northern New Mexico is a land of great beauty, ancient cultures, and age-old traditions. It is also a land of poverty, for far too many New Mexicans. **Despite massive federal spending, nuclear weapons haven't, and won't, bring economic and social renewal.** What we are getting instead of real economic development is waste – wasted lands, opportunities, and livelihoods.

A more humane and environmentally-sound future is possible – if we take action!

Tired of paying for "better" weapons of mass destruction?

Let your congressperson know! This postcard can be a start. Just write his or her name on the front and back of the card, add your own address, a 21¢ stamp, and mail!

21¢
postage
required

Name: _____
Address: _____
City: _____
State: _____ Zip: _____

The Honorable _____
United States House of Representatives
Washington, DC 20515

NMED hold formal public hearings on the required closure plan and subsequent cleanup and stabilization measures, both for Area G and for all other nuclear and chemical waste disposal sites in Los Alamos. Please put me on the mailing list for these hearings and all other opportunities for public comment on disposal and cleanup at Los Alamos. Since nuclear weapons have failed to create security in New Mexico, please give this food to charities who serve the poor. Don't waste New Mexico's future!

Sincerely,

[date:]

21¢
postage
required

The Los Alamos Study Group
212 East Marcy Street, Suite 10
Santa Fe, New Mexico 87501

Never doubt that a small group of thoughtful, committed citizens can change the world. Indeed, it's the only thing that ever has.

Margaret Meade



Los Alamos Study Group

Nuclear Disarmament • Environmental Protection • Social and Economic Justice

2602
January 15, 2001

Secretary Pete Maggiore
New Mexico Environment Department
Harold Runnels Building
1190 South St. Francis Drive
Santa Fe, NM 87502-6110

Re: We request cessation of nuclear waste disposal at Los Alamos National Laboratory's "Area G" landfill and formal closure of the site, as required by law.

Dear Secretary Maggiore –

The "Area G" nuclear and chemical waste landfill is located one mile west of White Rock, NM, on Mesita del Buey in Los Alamos County. With the exception of two waste categories, essentially all the nuclear waste produced at Los Alamos National Laboratory (LANL) is permanently buried at Area G.¹

Area G, like the rest of LANL, is managed by the University of California (UC) for the Department of Energy (DOE). UC has held the operating contract for LANL since 1943, and since that time has disposed of nuclear and chemical waste at LANL in approximately 26 official material disposal areas (MDAs, of which Area G is the largest) and at hundreds of outfalls, firing sites, and other locations.

Area G is the only nuclear/chemical waste landfill at LANL still operating at this time. It began receiving waste in 1957, and so far has accumulated approximately 11 million cubic feet of waste.

Further background information regarding Area G can be found in **Attachment 1**.

Secretary Maggiore, we are writing to respectfully remind you of your long-standing obligation to close Area G to further nuclear waste disposal and begin a process of selecting remedies for the site that meet, in both process and substance, all applicable legal requirements of the Resource Conservation and Recovery Act (RCRA).

Why Area G must close

As you know, Area G admittedly received, for at least the first 28 years of its operation if not also since then, a broad spectrum of RCRA-regulated chemical wastes, as well as a wide variety of nuclear wastes. In 1980, LANL and DOE submitted a "Part A" application for a RCRA hazardous waste disposal permit for

¹The first category excepted from local disposal today is waste known to contain chemical wastes regulated under RCRA, a determination made by LANL without external review. The second exception is waste which contains more than 100 nanocuries per gram of transuranic elements (those elements with atomic number greater than 92), which is called TRU waste. The first category of waste is shipped to commercial off-site treatment and disposal facilities; some of the radioactive portion of this RCRA waste is shipped off site for treatment and is then returned for final disposal at LANL. The TRU waste is placed in long-term above-ground storage at Area G for eventual shipment to the Waste Isolation Pilot Plant (WIPP), near Carlsbad, NM.

Prior to the mid-1970s, all transuranic waste produced at LANL was permanently buried at Area G and other LANL disposal sites.

all of Area G and for all other sites within TA-54. First the federal Environmental Protection Agency (EPA), and later the New Mexico Environmental Improvement Division (EID), the predecessor of the New Mexico Environment Department (NMED), granted LANL temporary "interim status" permission to continue disposal of RCRA waste anywhere in Area G, pending application and subsequent issuance of a full operating permit for the site. This was done despite a number of fundamental defects in LANL's application for interim status, including the absence of the required closure plan and of groundwater monitoring at the site.

This 1980 declaration on the part of LANL and DOE, which was resubmitted with modifications on other occasions between 1980 and 1985, and the long record of agency actions taken pursuant to that declaration since 1980, has made this site in its entirety subject to the permitting and closure requirements of RCRA.

No full permit application ("Part B") was ever submitted by LANL for approval, however, and Area G was never permitted for operation. Instead, in 1985, LANL withdrew its "Part A" application for interim status for Area G, triggering RCRA's closure requirements for the site. But instead of immediately closing the site as required by law, state and federal regulators allowed Area G to fall into a legal "limbo" from which it has never recovered.

Since 1985, EID, now NMED, having granted an "interim" permit to LANL to operate the site as a chemical waste dump for the 1980 to 1985 period, has been under an obligation to either permit the site -- which is impossible, given the lack of an application -- or to formally close it.

The question of whether Area G is or is not *currently* receiving regulated chemical waste, in addition to nuclear waste, does not bear on this clear requirement under RCRA to *promptly, formally and fully* close Area G, and to develop, with full public participation, binding plans and commitments to remove, partially remove, or to permanently stabilize Area G's wastes, as RCRA provides. The argument that neither permitting nor closure is necessary because this site allegedly stopped receiving RCRA-regulated waste in 1985 is simply not germane, given that for 28 years RCRA-regulated wastes, amounting to millions of cubic feet in total volume, were disposed at the site.²

This regulatory history is summarized with some additional details in **Attachment 2** to this letter.

In addition to RCRA-regulated wastes, Area G has received and may still be receiving for permanent disposal other toxic chemical wastes, such as pesticides, herbicides, and polychlorinated biphenols (PCBs), which are regulated under the Toxic Substances Control Act (TSCA). While NMED does not regulate these substances at Area G directly, they do add significantly to the overall risk posed by the site and must be taken into account in site closure plans. Many of these substances bioaccumulate in the food chain; PCBs have already been found at levels dangerous to humans in fish caught in Cochiti Lake and in Bandelier National Monument.

Environmentally, Area G is a poor site, and should close

The waste interred at Area G is now buried, as it was in 1957, in shallow unlined pits and shafts. When the pits are nearly full, they are covered by about three feet of crushed volcanic tuff, a sand-like material; the shafts are topped off with a concrete plug. Most of the waste has little or no primary containment. There is no secondary containment, no cap, and no liner. The total inventory of chemical and

²In 1985, LANL claimed that Area G would receive no more RCRA-regulated chemical wastes. There has never been, however, any system of independent regulatory oversight to verify this claim, and in the 1990s there was at least one enforcement action by the NMED for the illegal disposal of RCRA-regulated hazardous waste at Area G. As discussed in the attachments below, LANL's most definitive Area G waste inventory lists "unknown chemical wastes" in every disposal pit used at Area G since 1985.

nuclear waste at the site is unknown; its volume already exceeds the ultimate capacity of WIPP.

Secretary Maggiore, we would like to emphasize that Area G is directly adjacent to springs and wetlands, and is both directly upstream and upwind from White Rock, NM. Surface water in Pajarito Canyon, immediately adjoining and topographically *below* the dump, has been used as a potable water supply from Anasazi times until the establishment of the lab, and the site is ringed with ancient pueblo ruins and grave sites. Shallow, as well as intermediate, aquifers are found beneath Pajarito and surrounding canyons. Groundwater is percolating downward from these aquifers to the regional aquifer below, to springs along the Rio Grande, and to public water supply wells, one of which is directly south of Area G. As you know, analyses of public water supply wells in Los Alamos have begun to show evidence of contamination by man-made radionuclides such as tritium and strontium-90. **A test well directly adjacent to Area G ("R-22") shows contamination of the regional aquifer by low levels of tritium and technetium-99.** The site lithology is not the best, either: below the tuff, the rock consists largely of fractured basalt, which is highly unfavorable for retention and attenuation of contaminants, should they reach groundwater.

In sum, Area G's natural setting is not favorable for the disposal of nuclear waste. It is highly unlikely that Area G or for that matter, any chemical or nuclear waste disposal facility, could ever be permitted today at TA-54. The same is true for the rest of the Pajarito Plateau, which receives too much precipitation, is too dissected by canyons with streams, and is too permeable for the permitted disposal of chemical and long-lived nuclear wastes.

The New Mexico Attorney General's office has asked you to close the site

For many of these reasons, Lindsay Lovejoy of the New Mexico Attorney General's office wrote to James Bearzi, Chief of the NMED Hazardous Waste Bureau, on July 12 of this year, asking him, among other requests, to close Area G. That letter states, in relevant part,

We have pointed out to NMED that these MDAs [Material Disposal Areas G, H, and L] were long ago required to stop receiving waste, have an approved closure plan, and close, but this has not happened. MDAs G and L were required to close under 40 CFR §§ 265.112(d)(3) and 265.113 (b) after NMED accepted LANL's withdrawal of its request for a permit for these areas in April 1985, terminating interim status under 40 CFR § 270.73(a). MDAs G, H, and L, were also required to close based on loss of interim status in November 1985, under 42 U.S.C. § 3005(e)(2) and 40 CFR § 270.73(c). However, to date they have neither been closed nor permitted.

Your agency has made no reply to this letter.

Many New Mexicans have requested closure

Secretary Maggiore, in addition to the imperatives of law and of science, approximately 2,000 New Mexicans have written to Governor Johnson and to you, respectfully requesting that you close Area G. They have requested that you hold public hearings, as required by law, regarding what is to be done with the site and the waste in it, as well as regarding the cleanup and stabilization of contamination at LANL generally.

We refer to the participants in the Los Alamos Study Group's "Can-Paign." What is more, these people have not merely signed a petition, but have paid \$3.00 for the privilege of placing that letter on a food can that could display the letter in a way likely to be noticed and truly *read* by the Governor and yourself. We have read that appeal, appended here as **Attachment 3**, and we endorse it. We urge you to consider these requests carefully, as indeed you are required to do by law.

Alternatives to disposal at Area G exist and are environmentally superior to current practice

Secretary Maggiore, we recognize that there is no perfect answer to the question of what to do with the nuclear waste that continues to be generated by Los Alamos programs. Certainly, making less new nuclear waste is an option, and it is one that is engaging considerable attention at DOE and LANL. While LANL's stated desire to be a "zero-discharge" facility may not be practical, there is certainly room for improvement.

A number of other alternatives for sequestration of waste could also be mentioned, many of which, like generating less waste from LANL programs, are environmentally superior to disposal at Area G. **In any lineup of alternatives, common sense dictates that under no circumstances should the dumping of nuclear waste in shallow unlined pits directly above our streams and drinking water supplies be an option that is seriously considered.** Although it seems obvious enough, it is highly likely such poor practice will be the **only** alternative seriously considered until Area G is closed.

This letter is not the place to exhaustively list these alternatives or to discuss their relative merits. Certainly NMED has no statutory responsibility for the generation and ultimate disposal of LANL's non-RCRA-regulated nuclear waste, unless of course that waste is being disposed at Area G, a site subject to RCRA regulation.

One option DOE may select is to open a new nuclear landfill at LANL. **As you know, a sequence of four new nuclear waste disposal sites have *already* been planned for LANL, *whether or not* Area G is formally closed.** The closure and post-closure commitments chosen by you for Area G, with ample and substantive public involvement, will undoubtedly help establish the precedent for the design and operating standards for any new disposal facility at LANL.

Environmentally speaking, there is no downside to closure of Area G. When – and how – you close Area G will help determine the standard of environmental protection for any new nuclear landfills at LANL.

We appreciate your attentiveness to this matter, which has gone without regulatory attention for so long. We respectfully request that you formally close Area G, as required by law.

Sincerely,

[signature pages follow]

cc: Governor Gary Johnson
Patricia Madrid, Attorney General
Senator Jeff Bingaman
Senator Pete Domenici
Congressman Tom Udall
Governor Harry Martinez, San Ildefonso Pueblo
Governor Regis Pecos, Cochiti Pueblo
Secretary Spencer Abraham, Department of Energy
Rick Glass, Manager, DOE Albuquerque Operations Office
President Richard Atkinson, University of California
Senator Richard Polanco, Majority Leader, California State Legislature
John Browne, Director, Los Alamos National Laboratory
James Bearzi, NMED Hazardous Waste Bureau Chief
Mary McInerney, Los Alamos County Administrator

Dolores S. Herrera, Executive Director
Albuquerque San Jose Community Awareness
Council, Inc.
P.O. Box 12297
Albuquerque, NM 87195-2297

Dorelen F. Bunting, Coordinator
Albuquerque Peace & Justice Center
144 Harvard SE
Albuquerque, NM 87106

Brian Shields, Executive Director
Amigos Bravos
P.O. Box 238
Taos, NM 87571

Michael J. Robinson
Center for Biological Diversity
New Mexico Office
P.O. Box 53166
Pinos Altos, NM 88053

Sue Dayton, Director/Coordinator
Citizen Action of Albuquerque
P.O. Box 1133
Sandia Park, NM 87047-1133

Deborah Reade, Research Director
Citizens for Alternatives to Radioactive
Dumping
144 Harvard SE
Albuquerque, NM 87106

Joni Arends
Waste Programs Director
Concerned Citizens for Nuclear Safety
107 Cienega Street
Santa Fe, NM 87501

Hilario Romero, President
El Rio Arriba Environmental Health Association
P.O. Box 1699
Santa Cruz, NM 87567

Eulynda Toledo Benalli (from the Dine' Nation),
President
First Nations North and South
609 Candelaria NW
Albuquerque, NM 87107

John Horning, Conservation Director
Forest Guardians
312 Montezuma Avenue, Suite A
Santa Fe, NM 87501

Harry Brown, Executive Director
Gila Resources Information Project
306 North Cooper Street
Silver City, NM

Melissa McDonald, Co-Chair
Xubi Wilson, Co Chair
Green Party of NM
P.O. Box 22485
Santa Fe, NM 87502

Greg Mello, Director
Los Alamos Study Group
212 E. Marcy, Suite 10
Santa Fe, NM 87501

Peter Neils, Director
Native Forests Network
3136-3 Glenwood Drive, NW
Albuquerque, NM 87107

Geoffrey H. Fettus, Attorney
Natural Resources Defense Council
1200 New York Avenue, N.W., Suite 400
Washington, D.C. 20025

Kurt Ulrich
Nizhoni School for Global Consciousness
HC 75 Box 72
Galisteo, NM 87540

Helga Schimkat, Executive Director
New Mexico Conservation Voters Alliance
P.O. Box 40497
Albuquerque, NM 87195

Coila Ash, Director, Executive Director
New Mexico Toxics Coalition
325 E. Coronado Road #2
Santa Fe, New Mexico 87505

Jay Coghlan, Director
Nuclear Watch of New Mexico
551 W. Cordova Road, #808
Santa Fe, NM 87501

Melinda Smith, Director
1000 Friends of New Mexico
1001 Marquette NW
Albuquerque, NM 87102

Marsha Mason, President
Resting in the River
528 Don Gaspar
Santa Fe, NM 87505—2626

David Bacon, President
Southwest Energy Institute
54 San Marcos Road West
Santa Fe, NM 87508

Michael Guerrero, Executive Director
Southwest Organizing Project
211 10th SW
Albuquerque, NM

Don Hancock
Nuclear Waste Program Coordinator
Southwest Research & Information Center
P.O. Box 4524
Albuquerque, NM 87106

Jorge Garcia, Strategy & Planning Director
Tonantzin Land Institute
P.O. Box 7889
Albuquerque, NM 87194

Jaime Chavez
Regional Coordinator
Water Information Network
P.O. Box 4524
Albuquerque, NM 87106

Sam Hitt, Founder
Wild Watershed
P.O. Box 1943
Santa Fe, NM 87504

Letter from Organizations to Secretary Maggiore, January 15, 2001

Attachment 1: Background Concerning LANL's "Area G" Nuclear Landfill

Prepared by the Los Alamos Study Group

According to DOE, Area G is slated to annually receive 44,000 drums' worth of nuclear waste for permanent disposal.³ While actual disposal rates are at present about only 43% of this amount, the rate of waste generation and disposal is expected to increase as LANL begins its planned production of plutonium "pits," the cores of nuclear weapons, and as ambitious nuclear weapons testing programs come on line at Los Alamos.⁴

Area G lies in LANL's Technical Area (TA-) 54, and is 63 acres in size. It contains at least 39 disposal pits and more than 209 shafts, which together cover most of the site. When it is completely filled, LANL anticipates dedicating four more sites to permanent nuclear waste disposal, three in TA-54 and one on another mesa, in TA-67.

Historically, Area G has been a disposal site for dangerous wastes of all types, including a wide range of toxic chemicals, pesticides, PCBs, transuranic (TRU) wastes of the kind now destined for WIPP, spent nuclear fuel and components of small nuclear reactors, and other radioactive wastes of every description. Both liquids and solids have been disposed at the site. LANL claims to have only disposed of radioactive, and not chemical wastes, at the site since April, 1985, although the New Mexico Environment Department (NMED) has fined LANL for the subsequent disposal of hazardous waste at the site, and LANL's own inventory of wastes disposed lists "chemical waste of unknown nature and concentration" for every pit used between 1985 and 1992 (see note 5, next page).

Beneath the mesa surface, plumes of hazardous waste vapors and radioactive tritium have mingled to cover much of the site. These plumes are close to permanent springs and surface water, which are located immediately adjacent to and below Area G, in Pajarito Canyon. A recent deep test well drilled at the site ("R-22") shows traces of two man-made radionuclides (tritium and technetium-99). Small amounts of plutonium and other radionuclides have been documented in water- and wind-born sediment leaving the site, and in the bodies of burrowing animals.

While Area G is likely to retain most of its buried waste for many centuries, waste will escape through a number of processes. The infiltration of rain and snowmelt, which percolates unimpeded through the waste, is enhanced by the greater permeability of waste relative to the surrounding tuff and will be accelerated by future waste subsidence. Infiltration is also enhanced by impervious structures built on the portions of the surface. Liquid and vapor transport through the fractured rock beneath the site, which varies from one place to another in an unknown and unknowable manner, cannot be predicted. Contaminants will also leave the site through wind erosion, and through the cumulative actions of plant roots and burrowing animals, both of which deposit radionuclides at the surface. These natural processes, while small in any given year, will have a cumulatively large effect over the course of centuries. Human intrusion, both intentional and inadvertent, cannot be ruled out, and could lead to massive breaches of containment. The rate of leakage is unknown; what *is* known is that the leakage will eventually be total.

In addition to the waste permanently disposed, Area G now stores some 46,000 drums' worth of TRU waste destined for WIPP. DOE hopes to ship all this waste, along with newly-generated TRU waste, over the next three decades. In 1994, DOE estimated that the nuclear waste at Los Alamos contained about 610 kilograms of plutonium. Most of this is at Area G. The fraction of this plutonium that is "permanently" buried is unknown, since early LANL and DOE disposal records are sketchy, but it is likely that hundreds of kilograms are so buried, making Area G a sort of unpermitted "WIPP site."

³See <http://www.lasg.org/gfrm_a.html> for a summary of official DOE disposal projections and maps of future LANL disposal sites from its Site-Wide Environmental Impact Statement (LANL SWEIS, 1999). All other background information cited in this letter is from DOE and LANL sources; most of it can also be found at the above web site and related pages.

⁴According to the LANL "Comprehensive Site Plan 2000," more than \$5 billion in new nuclear weapons facilities are being planned for LANL, many of which will create additional nuclear waste (see <<http://www.lanl.gov/csp2000/>>). As of this writing, this web site has been taken down by LANL; its content is available at the Los Alamos Study Group office.

Letter from Organizations to Secretary Maggiore, January 15, 2001

Attachment 2: Summary of the Regulatory History of LANL's "Area G" Nuclear Landfill Prepared by the Los Alamos Study Group

On November 19, 1980, almost exactly twenty-one years ago, LANL began the application process for permitting its existing and planned hazardous waste disposal sites on Mesita del Buey, including Areas G, H, and L, under the Resource Conservation and Recovery Act (RCRA) and, later, the New Mexico Hazardous Waste Act. The disposal area for which LANL sought its first permit included *all* of what is called "Technical Area 54" (TA-54), which contains Areas G, H, and L and other sites, along with expansion space for all the disposal sites.

That permitting process has never come close to being completed; nor has it been conducted in the manner required by law, with opportunity for public comment.

In its initial application, LANL filed what is known as a "Part A" notification of hazardous waste activity, a simple application no more than a few pages in length, which purported to cover all hazardous waste activity at LANL. Despite the deficiencies subsequently uncovered by inspectors (which included the total absence of any plan for closure of the sites, or for any ground-water monitoring whatsoever), "interim status" – a kind of temporary, standardized, stripped-down operating permit – was granted to LANL for its active hazardous waste disposal sites, including Area G in its entirety (63 acres).

This "interim status" lasted for five years, despite enforcement actions first initiated by the U.S. Environmental Protection Agency (EPA) and the New Mexico State Environmental Improvement Division (now the Environment Department, or NMED) beginning in June of 1983 and then, with somewhat greater effect, in May of 1984.

By May 1, 1985, LANL's complete application for an operating permit ("Part B") for these disposal sites was due. But instead of submitting a permit application, which would have required expensive monitoring provisions, as well as stricter requirements on disposal that would have halted the use of unlined pits, LANL withdrew its "Part A" application for Area G, ending interim status for that site.

The loss of interim status normally should have triggered RCRA closure requirements, including public hearings on closure, but LANL had been allowed to operate without an approved closure plan for Area G, and so there was no plan to implement. ***Right up to the present day, no serious closure plan for Area G has ever been submitted, none has been approved, none has been implemented, and no public hearings on the future of this site have ever been held.***

Without an approved permit or even interim status, LANL was required to close the site by an early date certain, following a process set forth in federal regulations. Even starting from scratch, without a closure plan, all closure activities were to be completed and certified within 420 days (from 5/1/85); if a closure plan were in place, closure was to be complete within 270 days after the last truckload of hazardous waste was received at the site.

Under RCRA, hazardous waste disposal sites must either be fully permitted for operation under legally-binding, agreed-upon guidelines that protect public health, workers, and the environment, or else they must be formally closed. A central thrust of RCRA was, and remains, to make sure that there is no third option.

Any approved closure plan for Area G must by law include a number of protections for citizens and the environment, including commitments to long-term monitoring, financial assurance, creation of an accurate waste inventory, and careful selection of closure options. Such closure options range from long-term containment in place to removal of some or all of the waste.

Although LANL claimed in 1985 to have ceased disposal of chemical waste at Area G, later investigation by a LANL contractor,⁵ and still later enforcement action by NMED, revealed that chemical wastes were at times disposed at Area G well into the 1990s – if indeed sporadic, inadvertent, hazardous waste disposal has ever fully stopped.

Disposal of nuclear waste at Area G continues today, with no plan to stop and no external regulation.

⁵IT Corporation for LANL, 1992, "Operable Unit 1148 Data Report." This document attempts to inventory wastes disposed at Areas J, H, L, and G by disposal pit and time period.

Letter from Organizations to Secretary Maggiore, January 15, 2001

Attachment 3: Text of Letter from the 2001 "Can-Paign" to Close Area G

Dear Governor Johnson:

Los Alamos National Laboratory continues to dispose of large quantities of radioactive waste in shallow pits and shafts in its "Area G" landfill near White Rock, NM. I respectfully request that you, through the New Mexico Environment Department (NMED), close Area G to further disposal of nuclear waste. I request that NMED hold formal public hearings on the required closure plan and subsequent cleanup and stabilization measures both for Area G, and for all other nuclear and chemical waste disposal sites in Los Alamos. If I am a New Mexico resident, put me on the mailing list for these hearings and all other opportunities for public comment on disposal and cleanup at Los Alamos. If I am a visitor to New Mexico, please note that I too care about the environment and people of this beautiful state. Don't waste New Mexico's future!

Sincerely,

[signed]

How Much Low-Level Waste Does DOE Plan to Dispose at LANL? Informal remarks by Greg Mello, 11/29/02

Authoritative recent estimates of projected waste disposal at Los Alamos National Laboratory (LANL) can be found in two subsequent editions of the Department of Energy's (DOE's) "Low-Level Waste Disposal Capacity Report." They disagree somewhat, and both are provided here.

The first edition ("Revision 1") is available in laborious HTML sections at http://www.em.doe.gov/lowlevel/llw_toc.html. Some 300+ pages long, it was released on 9/18/98. In Table 2-1 of this document, we see that LANL's TA-54, Area G was then projected to receive some 560,000 cubic meters of low-level waste (LLW) between 1998 and 2070.

For reference, there are some 35.32 cubic feet in a cubic meter, some 7.48 gallons per cubic foot, and some 55 gallons per drum (if drums were used), making 560,000 cubic meters equal to the volume in 2.7 million drums.

Of these 560,000 cubic meters, only 37,000 cubic meters, or 7%, was to come from environmental restoration (ER) activities. Some of this will be from the demolition of contaminated buildings rather than environmental cleanup *sensu stricta*. The main point is that it is the operating programs, and not environmental cleanup, that were expected to generate the vast bulk of the new waste – at least 93% of it.

The total waste disposed to date at LANL in 26 landfills is roughly 18,000,000 cubic feet (or 510,000 cubic meters; see "waste quantities by MDA"), which is just a little less than the 560,000 cubic meters projected in this report. The period from 1943 to 1998 is 55 years; the period from 1998 to 2070 is 72 years -- just a little more. Within the accuracy of the estimates, we can then say that the rates of disposal at LANL up to now, and the rates of disposal projected in this report for LANL, were about equal to one another.

There is now a new projection, however, entitled "The Current and Planned Low-Level Waste Disposal Capacity Report, Revision 2," dated December 2000. This report contains remarkable differences from the 1998 one. It is available at <http://www.em.doe.gov/lowlevel/llw2000/index.html>, in convenient pdf form.

First, the ultimate additional capacity of Area G has been increased from 225,000 to 1.6 million cubic meters -- a 711% increase – from Revision 1. The new number is about 3 times the total disposed volume at LANL today, and is about 5 times the volume of what is in Area G today.

Second, the total projected low-level waste (LLW) in the "volume destined for waste operations facilities" in Revision 2 has decreased by some 380,000 cubic meters complex-wide -- which decrease is, as far as I can tell, all at LANL (see p. 2-2, and Table 2-2, p. 2-6). So the planned disposal of LLW at LANL is now much less than it was in 1998 (about one-fifth), but the ultimate capacity for disposal is much more (factor of 7). Go figure.

Both reports "lose" -- do not mention -- *all* the waste disposed in *all* the landfills at LANL prior to roughly 1995. In a footnote to Table 2-6 in the 2000 report, "past disposal" is defined as disposal in pits in operation during or after 1995 -- "It [the table] does not consider waste disposed at other units closed prior to 1995." Of course, neither Area G nor any part of it (nor of Area H, nor of Area L) has ever been formally closed, which is precisely the regulatory issue regarding them.

None of the volumes (in either Revision 1 or Revision 2) include the hundreds of other contaminated sites, for which there is no good volume estimate. At <http://emi-web.inel.gov/dmaps.html#Alb> can be found a pdf chart dated 7/30/99, typical of the era, that shows the expected cleanup volumes for LANL and other sites by waste type and disposition. It shows 32,000 cubic meters of ER waste going to TA-54, similar to the 1998 report; some 279,000 cubic meters of transuranic waste (TRU) waste in the ground at LANL to be capped and left, and some 200,000 cubic meters of LLW "soil/sediments" to be "contained in-situ," whatever that may mean. The total waste shown is 575,000 cubic meters, just 65,000 cubic meters more than the roughly 510,000 cubic meters that is now in the 26 designated landfills at LANL.

The bottom line is that DOE is still planning on disposing millions of cubic feet of radioactive waste at LANL. It has decreased the total expected amount of disposal (by a roughly a factor of 5), even as it has increased the total officially available disposal capacity (by roughly a factor of 7). DOE's year 2000 estimate is "only" about 33 drums per working day for the next 68 years at LANL, down from its 1998 estimate of roughly 132 drums per working day for 72 years.

Will Richardson Halt LANL Nuclear Dumping, Clean Up Mess?

Greg Mello

Published in the Santa Fe New Mexican

November 16, 2002

Since 1943, the Department of Energy (DOE) has designed, built and tested nuclear weapons in New Mexico. This business has left behind a considerable toxic legacy, including more than 1,000 contaminated sites at Los Alamos National Laboratory (LANL), of which 25 are hazardous and nuclear waste landfills. At LANL, groundwater is contaminated in several locations, and low levels of contaminants have shown up in area wells. Despite this, unregulated nuclear waste disposal continues on a narrow mesa just above springs, streams, and ancient burial sites -- an entirely unsuitable site -- with no signs of stopping.

The currently-active dump is called "Area G." Waste is buried here in shallow pits and shafts and covered with as little as three feet of earth, just as it was in the 1950s.

Amazingly, this disposal is still entirely unregulated. There has been no licensing process, no hazardous waste permit, no closure plan, no commitment to post-closure care, no performance bond, no disclosure of waste, and no external regulation of disposal. The New Mexico Attorney General finally said last year that the site has been operating illegally since 1985. Subsequently, more than 2,000 New Mexico residents and 27 environmental organizations petitioned the New Mexico Environment Department (NMED) to close Area G. But neither Attorney General Madrid nor NMED, which is charged with regulating the site, has acted.

But isn't LANL being cleaned up, at least? Hardly. DOE has now spent more than \$700 million on LANL "cleanup" -- meaning a program by that name, not the removal of waste from the environment. Few actual cleanups have been done -- and because of the continued disposal, the total waste in the environment just keeps increasing. Most of the cleanup money has gone to University of California (UC) overhead, or paid for research.

Unregulated nuclear waste disposal does more than despoil the environment. It also defines a relationship -- subjugation -- and it creates a future, one where governmental failure allows "rogue" institutions to exploit the state's resources and subvert its regulatory functions, making a "good business climate" for more of the same.

In May, NMED finally determined that there might be an "imminent and substantial endangerment" of human health and the environment at LANL and so issued a "corrective action order." The problem is, this order required no corrective action. Instead, it ordered several years of further study, primarily risk assessments of various kinds, in substantial part to keep federal dollars flowing to LANL (as Secretary Maggiore explained at the time). The studies requested will accomplish no cleanup, and most of them don't even *relate* to cleanup.

Then NMED turned right around and signed a "letter of intent" with DOE, a sort of preemptive regulatory surrender, signaling clearly that aggressive cleanup won't be necessary. In return, NMED will receive about \$700,000 from DOE.

But even NMED's not-too-subtle surrender did not satisfy UC or the Bush DOE, who want *no* regulation of Area G and the other hazardous and nuclear waste landfills *at all*. So UC reached into DOE's deep pockets (yes, they can do that, and yes, those are *our* pockets) and filed a massive lawsuit against NMED in federal court which aims to decimate New Mexico's ability to regulate essentially *any* nuclear waste or environmental contamination in New Mexico (except possibly at WIPP, where separate legislation might provide some protection).

Will Governor Richardson vigorously defend the state's environment and sovereignty against UC and the Bush crowd? Will NMED take itself off the DOE dole, repudiate the weird "letter of intent" signed by the last administration, and start real environmental cleanup at LANL? Probably not -- unless citizens ask for it.

Los Alamos Cleanup: Running in Reverse

September 8, 2002

Greg Mello

Since 1943 the Department of Energy (DOE) and its predecessor agencies have designed, built and (once) tested nuclear weapons in New Mexico. These activities have left us with a considerable toxic legacy, which unfortunately is still growing today.

There are at least 1,000 contaminated sites at Los Alamos National Laboratory (LANL), including 25 or so hazardous and nuclear waste landfills that together have a total volume of about 18 million cubic feet. At Los Alamos, groundwater, streams, and springs are seriously contaminated in several locations, and low levels of lab-emplaced generated contaminants have begun to show up in a couple of public drinking water wells and, apparently, in one off-site spring. While the contaminant concentrations may remain below standards in public wells for decades to come, this desirable outcome is by no means assured.

Disposal of nuclear and chemical waste at Los Alamos isn't just something that happened in the bad old days. It is happening now, as LANL continues to operate its 1950s-vintage disposal site, called "Area G." Area G, the largest of LANL's dumps, contains some 63 acres of hazardous and nuclear waste of all kinds. Today, as in decades past, nuclear wastes and PCBs are buried in unlined shallow pits and shafts and covered with as little as three feet of earth. Area G contains the same kind of plutonium waste as WIPP, along with a mish-mash of other waste: old nuclear reactors, spent nuclear fuel (similar to that proposed for disposal at Yucca Mountain in Nevada, but in much smaller quantities) and chemical wastes of many kinds, totaling about 11 million cubic feet in all. Since DOE's disposal records are admittedly very incomplete (and at other sites frequently have been proven to be false), no one will ever know for sure all of what is in Area G without exhuming the poorly buried waste.

This is intended to be permanent nuclear waste *disposal*, not just temporary *storage*. (Long-term storage also does take place at Area G, in tents built over the old disposal pits.) And it isn't any kind of temporary expedient; LANL plans to generate and permanently bury nuclear waste on site indefinitely. How much waste? DOE documents say the lab will generate and bury an additional *19 million cubic feet* (about 2.5 million 55-gallon drums' worth) of nuclear waste at LANL over the next 70 years, somewhat more than has been made and buried at LANL up to now. All this is in addition to the waste it plans to generate, store, and ship to WIPP.

So the "clean up" at LANL is running at full speed – *in reverse*.

After Area G is completely full (in roughly 2005), DOE plans to create another four similar shallow, unlined disposal sites, one after another, and permanently fill each of them with nuclear waste.

There has been no public licensing process for this disposal, as would be required for a comparable commercial site. There is no hazardous waste disposal permit, no plan or commitment for closure or post-closure monitoring and repairs, and no performance bond -- all of which are ordinarily required at admitted hazardous waste disposal sites like Area G. The New Mexico Attorney General said last year that Area G has been operating illegally since 1985, but neither Attorney General Madrid nor the New Mexico Environment Department (NMED), which should be regulating the site, wants to face the issue. More than 2,000 individuals and 27 environmental organizations have petitioned NMED to close Area G, all to no avail so far.

While disposal continues, the University of California, which runs Los Alamos for the DOE, supposedly has been engaged in a "cleanup" program, which began in 1989. Yet there are still no definite plans to clean up much, if any, of the toxic environmental legacy at Los Alamos. While most states have negotiated cleanup agreements of some kind with the DOE, New Mexico has no binding agreement that requires actual remediation *anywhere*, nor to our knowledge is any such agreement being drafted at this

time.

Lack of money is not the issue. DOE has spent over \$700 million on “cleanup” at Los Alamos alone, and a few real cleanup projects have indeed been done. But most of the money, year after year, is spent on investigations and preliminary studies of various kinds. At Los Alamos there are now enough of these detailed studies to fill a good-sized room. And every year, much of the cleanup money – no one really knows how much -- simply disappears into “overhead.”

None of this is accidental. While lab managers don’t mind getting the money, they do not want cleanup and have said as much in congressional testimony. Why? Today’s cleanup standard could well become tomorrow’s disposal standard, for one thing. And real cleanup would reflect badly on the institution and on nuclear technology as a whole, potentially affect morale and recruitment. It would, for these reasons, negatively impact, ahem, national security.

Sometimes the question is posed whether or not this waste will leak into the environment. Well, it’s *in* the environment. In most cases there is no containment to leak *from*. Even if the long-lived portion of the contamination bleeds out slowly from its current location so that standards are never exceeded in off-site wells and streams, New Mexico law quite properly requires *all* aquifers and streams in New Mexico be protected -- even those which Los Alamos may now think it owns.

Who, then, is conducting due diligence on behalf of the public? Who is watching out for the public health and safety, or for the environment?

The New Mexico Environment Department s (NMED) is that agency, and overall, its record is decidedly mixed at LANL. Regarding cleanup in particular, it has been largely ineffectual -- and as for halting illegal disposal, NMED is eerily silent.

There are several reasons for this. The biggest reason is the simplest: DOE holds the purse strings. In recent years, NMED has become increasingly dependent on DOE subsidies. It relies on these subsidies for the salaries of many of the outstanding scientists NMED has hired to watch over DOE. Now, DOE isn’t just paying NMED because it is a nice nuclear weapons agency, or because it “owes” NMED for anything. DOE is paying the piper, and will call the tune. It expects (and receives) considerable cooperation and freedom from enforcement from the NMED.

How then, from the NMED perspective, can the agency resolve the legal, political, and managerial issues posed by Los Alamos -- without antagonizing the DOE and the lab? How can NMED ask the labs to clean up -- without actually making them clean up?

At DOE, managers are asking themselves versions of the same questions: how can our problems, both legal and in public relations, be solved without actually changing our behavior, or moving (much) contaminated dirt?

There is only one approach that meets these contradictory goals: deception.

The first move this year was NMED's. In early May, NMED found that there might be – “we don’t say there *is*” – an “imminent and substantial endangerment” of human health and the environment at LANL. So far so good. Then on this basis, which is certainly true, NMED issued a “corrective action order.” But the order requires no actual corrective action. (What’s in a name, anyway?) Instead, it orders several years’ worth of further investigations, in effect “turning back the clock” -- while providing a “regulatory driver” for more lab appropriations. NMED can also get a small slice of the action. As NMED Secretary Maggiore said in his May press conference, a big part of his agency’s purpose in issuing the order was to help “stabilize” funding for the lab’s environmental programs. The thrust of the research NMED has ordered, however -- which will consume essentially all the “cleanup” funding at the site for years -- is not risk *reduction*, but risk *assessment*. NMED thus spent its political and bureaucratic capital to create a safe “sponge” for cleanup money – safe, in the sense that it will accomplish no cleanup. This is something LANL can accept, and indeed there have been no complaints from that quarter about the corrective action order (as opposed to the “endangerment” finding, which is being challenged, about which more below).

Then, just three weeks later in late May, Maggiore signed an agreement with the DOE called a “Letter of Intent,” which accelerates the “completion” of cleanup at DOE facilities in New Mexico --

this, just after signing an order calling for years of additional investigations! How, then, is this “accelerated cleanup” to be accomplished? By agreeing to a whole menu of Bush Administration anti-environmental goals and procedural “reforms,” such as private decision-making groups (“high performance teams”) that will “fast-track” regulatory decisions, the substitution of “long-term stewardship” for cleanup, and so on – in sum, by agreeing there will be never be much cleanup. In return for signing off on this letter and keeping silent about subsequent related documents that detail this agreed-upon approach, NMED will receive about \$700,000 in subsidies – payoffs, in other words -- from the DOE in the first year alone. Presumably, future payments will be made in return for good behavior.

What is happening here is that a few lame-duck Johnson Administration officials are selling an important piece of our environmental inheritance for a mess of porridge.

Why didn't Secretary Maggiore consult the citizens of New Mexico before signing on DOE's dotted line? Why weren't other agencies, or the state legislature, consulted? Why haven't there been open forums where the public could discuss the advisability of making such a bargain, let alone the public hearings which federal and state environmental law say should have been held? Instead, Maggiore's negotiations were completely secret. A few selected outsiders were brought in privately after the fact to provide “cover,” which is the same kind of paternalism that is used by DOE on NMED. Then, next year, when hearings are finally held, the real decisions will have already been made. “Oh yes, we value your input very much – to make the decisions we have already made legally unassailable. Now go away for another 14 years.” (The last public hearing on LANL cleanup was in 1989, held by EPA. NMED has never held one.)

DOE has obtained other such “letters,” in other states. The various states have had to compete with each other for limited environmental dollars, and in the process have in some cases loosened previously agreed upon standards and goals -- the main “reform” sought by Team Bush.

There have been, of course, many cries of “Foul!” as a result of this artificial “race to the bottom.” Even the somnolent U.S. Senate, which hasn't conducted real oversight of DOE's programs in years, smelled a rat. The Senate Appropriations Committee suggested that DOE's approach be sent back to the drawing board – but it also provided the exact sum of money DOE requested for the “new” strategy, at least in New Mexico. It is sure to be funded in the House as well.

But what about public health and the environment? How can DOE and a compliant NMED make the public health risk and the lack of compliance with groundwater standards seem to disappear? The answer is simple, and it's covered in the “Letter of Intent:” average it out. Assume it will be diluted. After all, LANL controls some 43 square miles of land, and most of that land is basically uncontaminated. And the rain, as the gospel says, falls on the contaminated and uncontaminated alike.

The regulatory import of what DOE and NMED call their “watershed aggregate approach” is that uniform cleanup standards – the kind that apply to everybody -- are irrelevant. Cleanup isn't necessary, they have said and will say, because the entire watershed isn't contaminated badly enough, *on the average*, to warrant action. Nifty, eh? And if this doesn't work, NMED suggests in its order that “technical infeasibility” might also be employed, an almost infinitely flexible excuse for inaction.

And so the sellout goes on, through Byzantine bureaucratic and legal maneuvers not fully described here. It is very complicated. Its overall complexity, like that of the accounting systems used to mask corporate fraud, places it beyond the reach of well-intentioned scrutiny and comment, even by NMED itself in many cases. Simpler approaches would conserve NMED's scarce regulatory resources, be comprehensible to the public (and to judges), and in the process would uphold the environmental values that many worked so hard to put in place. They would require some clarity of direction from NMED, however.

All in all, Maggiore's team has set a terrible precedent, precisely because it has been so very cleverly put together.

But there is still more.

While LANL has remained silent about the investigations required by the state's corrective action order

– after all, they want NMED to order DOE headquarters to give them more money – LANL is opening its very deep pockets for lawyers to fight NMED’s finding of “endangerment” to human health and the environment. It has already filed a complaint in federal district court challenging NMED’s “endangerment” finding, which is buttressed by extensive legal research. Why?

One possible explanation is that an “endangerment” finding might give energetic public interest organizations a good handle to institute a citizen’s suit against LANL. LANL feels comfortable producing thousands of pages of (often meaningless) technical studies which cannot be deciphered by the public. But LANL would be a lot less comfortable if forced to face citizen organizations which, unlike NMED, are *not* on the DOE dole, armed with the powers of discovery and cross-examination in a neutral judicial forum.

This is a danger LANL is unwilling to risk. So while our feckless president prepares his preemptive attack on Iraq, LANL is now threatening its own preemptive strike on New Mexico regulatory authority, which aims at crippling the state’s ability to regulate *any* nuclear waste or nuclear contamination resulting from nuclear weapons work. After years of brushing off NMED’s regulatory attempts at LANL, the DOE now threatens to let slip its LANL lawyers, who are saying that EPA and NMED never had the authority to regulate most of the waste at LANL, Sandia, and WIPP in the first place.

Such a blatant exercise of power would, however, create its own severe legal and PR “blowback” for the nuclear feds. If LANL and DOE proceed, they could no longer sell themselves as “good citizens” trying to do the right things in the right manner. The Johnson NMED, for its part, would no longer be able to point to a need for more LANL “studies” to justify its own regulatory failures. If LANL pursues and wins its lawsuit there will be no more regulatory failures because there will be no more regulation. NMED, which is now in part a paid agent of DOE, has gradually passed over to DOE so much of the regulatory initiative that it will require considerable fresh thinking and courageous action to get it back.

How, then, might this situation be remedied? What actions should Mr. D’Antonio -- Maggiore’s successor -- or the next administration, take?

First and foremost, the NMED Secretary needs to admit that a mistake was made, and repudiate both the “Letter of Intent” and the detailed plans DOE has drawn up to implement it. Since NMED officials keep claiming that these documents are “meaningless,” it shouldn’t (according to this reasoning) be hard for NMED to disavow them. Their unwillingness to do so thus far testifies to the political and financial *quid pro quo* the “Letter” actually does embody, which will fatally compromise all future NMED regulatory actions as long as it stands.

Second, NMED needs to say goodbye to its addictive DOE payments. By prior agreement, they cannot be used for enforcement anyway, and it is enforcement that is so badly needed to make all the other NMED efforts worthwhile. NMED spends thousands of hours each year vetting LANL’s evasive regulatory submittals and going to endless LANL-generated meetings, most of which efforts accomplish exactly nothing. Much of this would be unnecessary if NMED were guiding the process instead of being guided by it. NMED could also seek to improve its fee structure – for example by billing all its regulated hazardous waste permittees by the hour, as is done in California in some cases. It is not necessary to increase state taxes to end the present degrading situation.

Third, NMED should take the initiative for once, and direct its excellent staff to require cleanup of both groundwater and soil in the most contaminated locations at LANL. NMED is perfectly aware of which these are. For most sites at LANL, there is already enough information in hand to begin cleanup, and it is only in the course of the cleanup process that detailed 3-dimensional information can be gained in any case. Cleanup and investigation should proceed together in most cases, not sequentially, which will also improve the quality of data tremendously, not to mention the environment and regulatory relationship.

Fourth, NMED needs to use the bully pulpit, its greatest political asset, to lead the news media and the public to understand that having a large property and a mission to make the absolute weapon does not mean that you can pollute it, absolutely or otherwise.

Fifth, NMED should initiate enforcement action to halt the unpermitted disposal of nuclear waste at

Area G, on both technical and legal grounds. Such leadership would invariably awaken a groundswell of informed citizen involvement and create effective channels for its democratic expression. Instead of fearing and limiting public involvement, NMED would actually be investing in its core constituency and helping renew public conversation about the environment and our role in it.

Finally, NMED should immediately require DOE to submit detailed plans that would include removing or permanently sequestering at least some of the long-lived nuclear and toxic legacy found in old landfills on The Hill. At present, there are no such plans even under consideration. At three such dumps, including Area G, NMED has an especially strong and clear regulatory mandate. NMED must use that mandate, informed by the very best science, and do so quickly – or, as discussed above, it may well lose it. New Mexico will be much the poorer if this occurs.

Los Alamos Study Group

September 6, 2001

Hand-delivered

Secretary Pete Maggiore
New Mexico Environment Department
Harold Runnels Building
1190 St. Francis Drive
Santa Fe, NM 87502 - 6110

- Re:**
- a) A request that the New Mexico Environment Department (NMED) initiate the Resource Conservation and Recovery Act (RCRA) closure process for areas G, H, and L, Technical Area 54, Los Alamos National Laboratory (LANL) in any permit document, corrective action order, or installation work plan issued or approved by the NMED;**
 - b) A request that the NMED order the Department of Energy (DOE) and the University of California (UC) to cease disposal of solid waste at Area G at an early date certain.**

Dear Secretary Maggiore –

Thank you for meeting with us today regarding the above matters and others.

I have twice before, in previous meetings with you over the past few months, communicated our deep concern that LANL continues to illegally dispose of large quantities of radioactive and solid waste at its Area G disposal site. You promised me that your legal staff would investigate. I have not heard anything from either you or your staff regarding this matter.

Besides radioactive and solid waste, I should point out that hazardous waste has also been disposed at Area G in the late 1990s, as one or more NMED enforcement actions attest. Given the complexity and opacity of LANL operations, even to DOE oversight personnel, given the extensive history of noncompliance to RCRA and other environmental laws at the site, and given the total lack of oversight for Area G disposal by any agency external to DOE, it is highly likely that RCRA hazardous waste is being disposed at Area G on an ongoing or a intermittent basis, and that RCRA waste is present in each and every pit at the site, since they are large and receive waste over long periods.

The disposal of solid waste at areas G and L has been illegal since April 2, 1985, when DOE actively withdrew its RCRA Part A permit application for those areas, causing the loss of RCRA interim status and requiring formal closure for these sites. Even if DOE had not actively chosen to close areas G and L, interim status expired for all units for which a Part B permit application had not been received by November 8, 1985 on that date, triggering a requirement to close within 60 days.

Since areas G and L received waste after July 26, 1982, post-closure permits and related assurances (e.g. groundwater monitoring, financial assurance) for these sites have also long been required.

It is important to remember, in this regard, that LANL currently catalogs approximately 24 formal Material Disposal Areas (MDAs), collectively containing at least 18 million cubic feet of hazardous and radioactive waste in shallow, unlined, earth-covered pits and shafts, among more than 2,000 other known or presumptively contaminated areas, some of which are extensive. *All* of these sites have released contaminants to the environment. Off-site releases to downstream and downwind areas, including the Rio Grande, began in 1944 and have continued since that time. Aquifer contamination likewise began in 1944 in the Los Alamos and Water canyon watersheds, at a minimum.

As your staff knows, the wastes at Area G include large and unknown amounts of very long-lived transuranic wastes, including both plutonium and americium in large quantities, fresh and spent nuclear fuel, uranium metal and compounds in large quantities, mixed fission and activation products, nuclear reactor components and housings, highly-mobile tritium, together with a very diverse group of RCRA and Toxic Substances Control Act (TSCA) wastes such as PCBs and pesticides. There is no primary or secondary

containment for most of these wastes. Underground plumes of toxic vapors are present at both areas G and L. Both solids and liquids were, upon information and belief, disposed at areas G and L. A plume of radioactive tritium is present at Area G. Perennial springs which have been used for both domestic and livestock purposes within living memory are present within a few hundred feet of the site, and are topographically below it. The LANL site boundary lies at the northern boundary of areas G and L, and is topographically below the waste pits.

In its 1980 Part A application, DOE wrote: "It is our interpretation that disposal may occur anywhere at TA-54 and still be a part of an existing disposal facility." That is, all of TA-54 was declared an existing RCRA hazardous waste disposal facility. On April 10, 1985, the (revised?) LANL Part A then on file at NMED identified 100 acres as a hazardous waste disposal facility, including Area G (63 acres), Area L, and all the mesa-top potential disposal sites between them. On June 7, 1985, DOE stated that Area G is 63 acres "and will be closed" and that a 37-acre area, including Area L and the land between areas G and L, still remained to be fully permitted as a hazardous waste disposal site. By November 25, 1985, DOE had acknowledged the loss of interim status for both areas L and G, including the land between them. Upon information and belief, subsequent NMED and DOE practice has been to treat areas G, L, and H as three separately-permitted units within TA-54.

At a minimum, there is no basis or precedent for dividing the existing 63-acre Area G disposal site into different sites or units for permitting and closure purposes. To the contrary, there is a strong possibility that research will show that closure requirements extend not only to the existing 63-acre site but also to the declared 100-acres, or the previously-declared area of TA-54 taken as a whole. Legal requirements aside, the narrower and wetter (i.e. higher and more western) portions of Mesita del Buey are likely to prove even more unsuited for future waste disposal than areas G and L.

It is for these reasons among others that the New Mexico Attorney General attorney Lindsey Lovejoy wrote to James Bearzi of your staff on July 12, 2001, reminding him that NMED had a legal requirement to close areas G, H, and L, and that Area G in particular *must stop receiving waste*. **It is difficult to see how any permit-related action – any order requiring corrective action, any permit modification or extension, or any installation work plan – taken by NMED, which did not contain a requirement to close these sites, could be considered either legal or complete, at this juncture.** Any such order, modification, extension, variance, or work plan – one which did not contain an requirement to close these sites, a requirement which is now 16 years overdue -- would be certainly be unacceptable on its face to this organization. This would include, first of all, any permit modification involving NMED acceptance of a "no further action" request from DOE at LANL.

Of course, closure means closure – that the site cease to receive solid waste for disposal by a date certain. I believe the legal grace period is 60 days; your attorneys will be able to advise you on this point.

As Mr. Lovejoy pointed out on July 12, any attempt to issue permit-related documents without full public participation would not meet legal standards. It would especially be inappropriate given the near-total lack of public participation throughout the history of the LANL permit, and the long-standing issues raised in this letter. I believe that letters to interested parties naming certain potential release sites as being considered for "no further action" are not, given the cumulative nature of the impact from all these sites, and the fundamental compliance issues raised here, appropriate.

Although I am not an expert, it appears to me that the requirement to close, and the process of selecting closure and post-closure remedies for these areas, existed prior to and independently of subsequently-enacted corrective action requirements for the site. If this is true, then the full scope of the RCRA closure and post-closure process, and not merely the corrective action process, will be necessary. Given the complexity of the issues and their importance for the region, such formality is almost certainly appropriate.

We look forward to working with you in the prompt resolution of these concerns.

Sincerely,

Greg Mello

**Brief Notes to the Administrative
and Legal Processes Underway
which Affect the Continuing
Disposal of Nuclear Waste at Los
Alamos and the Prospects for
Cleaning Up Contaminated Sites
there.**

Greg Mello
July 18, 2002

These matters are difficult to fully understand. The following represents only a partial understanding and we welcome discussion on it. Feel free to call or write.

1. The New Mexico Environment Department (NMED) Issued a Finding of Imminent and Substantial Endangerment (Finding) on May 2, 2002 for Los Alamos National Laboratory (LANL).

This Finding is in itself a good thing and it is very strong both factually and legally. It is based, however, on a section of the New Mexico Hazardous Waste Act, NMSA §§ 74-4-10.1, which has no provision for public participation, no specific right of public appeal, and provides no authority to order actual cleanup. It was not at all necessary to base an order to clean up the site on this particular law, which has these serious limitations. In effect, NMED's exclusive choice of this legal basis is equivalent to saying that the \$701 million spent so far investigating the site over a 12-year period provides too little basis for any actual cleanup decisions.

NMED's Finding does not say that there actually is any imminent and substantial endangerment to human health and the environment, but that there may be such endangerment, which is the legal standard in this particular part of the statute. It is this distinction, between what is and what might be, which leads to authority in this law for investigation but not for an actual cleanup order.

Historically, this limitation in federal hazardous waste law (the Resource Conservation and Recovery Act, or RCRA)

was widely recognized in the early 1980s and led to passage of the federal Hazardous and Solid Waste Amendments of 1984 (HSWA). We can thus liken the choice of this particular legal basis for the Corrective Action Order (CAO; #2, below) to “turning back the RCRA clock” to before HSWA and, at this site, to before all the expensive work that has been done pursuant to HSWA at Los Alamos. The CAO asks for LANL to summarize this prior work, but does not use the facts already known to order any actual reduction of risk, i.e. cleanup. It is as if NMED can't, or won't, use the roomful of reports it has already been given.

2. NMED issued a Corrective Action Order (CAO) consequent to the Finding, also on May 2, 2002.

The CAO is an order to do a great deal of investigative work at LANL over a period of several years. To oversimplify, the great bulk of the work is oriented toward risk assessment and is largely irrelevant to remedy selection.

DOE has estimated that the work ordered in the CAO would cost about \$65 M the first year, and presumably a comparable amount in subsequent years. DOE also estimates that LANL will get a total of \$76 M next year as a result of the Letter of Intent (LOI; #3 below), or just a little more than DOE originally estimated would be necessary to do the work required by the order. The work to be done under the CAO will therefore supersede essentially all other cleanup activity at the site, making any but a very small amount of actual cleanup fiscally impossible for the foreseeable future.

It is likely that the work required in the CAO will continue throughout much if not all of the coming gubernatorial administration – and therefore tie the hands of that administration. On the national level, performance of the work ordered in the CAO will probably occupy all of the current administration and some of the next, leaving time for superficial capping and final “completion” by 2008, as the DOE timetables and budgets developed to support

the LOI show.

It should be emphasized that the CAO and the LOI are two sides of one coin. The LOI provides money to the site (and the NMED) to do the work described in the CAO. The CAO in turn is palatable to DOE and UC because it supports the vision described in the LOI, and will become more supportive through DOE/UC/NMED negotiation. The final result of this negotiation may be “fixed” by being recorded in a court as a settlement (#s 4 and 5, below).

It must also be emphasized that there is no requirement for NMED to consider any public comment whatsoever as it finalizes the CAO. There is also no explicit and specific public right of appeal for the final CAO.

The defects of the CAO have been described in greater detail in the Study Group 5/8/02 press release.

3. The Letter of Intent (LOI) was signed by all parties on or about May 30, 2002.

The LOI has been described in greater detail elsewhere (i.e. in b and c above). It is the master document loosely governing all the processes listed here. Formally, it means little. Practically, it – and the several tens of millions of dollars that go with it – mean a great deal. It is, quite possibly, determinative.

In the LOI, NMED agrees to DOE’s overall cleanup plan – to expediting TRU disposal, to DOE’s approach to risk analysis, to a secret decision-making process, and other substantive matters. As a result, NMED gets paid by DOE an unstated but large amount more than it already receives from DOE, under a new protocol defined by the LOI and any related or supporting documents, which may or may not be public. This new payment will be, according to DOE, approximately \$700,000 for FY03.

DOE is taking this and other LOIs to Congress and using them as evidence of state “buy-in” to gain final congressional approval for the idea of an “accelerated cleanup fund,” probably with guidelines that Congress may

impose, and to secure funding for it. DOE can then use this fund next year and in subsequent years to exert leverage on the states – to “buy down” cleanup standards, humble the regulators, and streamline decisionmaking processes in ways that sandbag any opposition.

4. On June 2, 2002, the University of California (UC) filed a lawsuit in U.S. court (not yet served on defendant NMED as of this writing) seeking declaratory and injunctive relief against the Finding and the associated Corrective Action Order.

This lawsuit is clearly being used as a negotiating tool – a hammer – and may be dropped or settled if NMED does what UC wants NMED to do. It could also help NMED save face after these negotiations when the day is done.

The most important part of this lawsuit may be the claim that the Finding and CAO (which UC claims are inseparable) violate both procedural and substantive due process obligations under RCRA, since they appear to be modifications of the LANL RCRA operating permit, specifically the HSWA (corrective action) portion of it. (The other claims made by DOE do not seem as important or meritorious at this time, at least at first glance, although their sweeping nature create high stakes for NMED and the public, should a struggle along those lines be joined. This, and especially the work involved, is why they are an effective threat.)

This due process argument appears to have considerable merit, to say the least. In a meeting with the Study Group on 7/5/02, NMED officials Maggiore, Ritzma, Lewis, and Will admitted that HSWA corrective action, and also RCRA closure and post-closure care under the permit, were indeed the content and purpose of the CAO. They even said that the CAO might be – subsequent to being finalized, we must presume, without public hearings – incorporated into the permit. The hearing process used for the permit would then “bless” and legitimize the CAO without

actually providing a substantive hearing of the issues involved. (NMED has agreed, in the LOI, to avoid such uncertain processes.)

This lawsuit could also be a means to solidify or “fix” the outcome of decisions and place them beyond the reach of the public by recording them as an official settlement of the case. Or, if the public process were going “badly,” the lawsuit could be served and another, higher, negotiating forum opened up – one with a high cost of admission that can keep out the rabble.

Interestingly, DOE is not party to this lawsuit, although DOE will pay for it on a cost-plus basis (i.e. at no charge to UC). Some of the arguments appear too explosive or ill-founded to be made by DOE or DOJ, in all likelihood. For staging a harassing action like this one, UC has more freedom than DOE.

5. On June 2, 2002, DOE and DOJ have appealed the Finding and associated CAO in state court.

This lawsuit is also inactive at this time. It helps preserve DOE’s interests against NMED vis-a-vis the CAO – which is to say, the entire cleanup agenda at LANL for the foreseeable future) – and also against UC’s federal lawsuit, i.e. UC itself.

6. A heretofore-secret process for closure and post-closure plan submittal and review, covering areas G, H, and L at TA-54, is now underway at NMED.

On April 25, 2002, DOE and UC submitted proposed closure plans for the three TA-54 hazardous waste disposal sites G, H, and L, pursuant to a process formally begun in secret by NMED in December of 2001. After letters from the New Mexico Attorney General, more than 2,000 individuals, and 27 environmental organizations requesting closure of Area G, it is very strange that none of these people and organizations were notified that this process had begun, and that very substantive decisions were being made in it.

The plan submitted for Area H is based

on HSWA corrective action requirements (which are very vague) rather than more specific RCRA closure requirements, which was done in response to a (also secret) NMED go-ahead given on ??[2001]. This was a substantive and very significant permit decision. There was no public knowledge or input, let alone a hearing.

This Area H “clean-up” is expected (by both NMED and DOE) to set a precedent for remedies at all other disposal sites at LANL, and is for this reason DOE has made it the subject of a “high-performing team” (see #7, below), as well as a (separate, public-relations-contractor- led) “focused stakeholder involvement” process. In other words, the RCRA public participation requirements are being violated at what both NMED and DOE managers consider the bellwether site.

Months ago, both NMED and DOE officials told the Study Group orally that no decisions were being made in the meetings organized by the PR contractor regarding Area H. This appears to be belied by the correspondence record between these parties. NMED never replied to our letter of protest about this process.

NMED senior management told us on 7/5/02 that the closure plans for these sites – G, L, and possibly they meant H as well – could not be approved in their current form. They also said, however, that they have not advised LANL in detail as to what approvable plans should contain. A second notice of deficiency has been sent (May 2, 2002); a revised set of plans is reportedly due from LANL on August 15.

In theory, this would set the stage for a “train wreck” this fall, when the draft permit is to be released for comment, because any approved permit must have an approved closure plan, and the preparation of a final, solid closure plan from the present level of effort (as evidenced by the April LANL drafts) would probably take not less than a full year, if not much more. (Los Alamos has been required to have binding closure plans on file since – sit down now – 1980.)

The way NMED proposes to side-step

this train wreck – and sandbag all the public interest expressed in the Study Group “Can-Paign” and elsewhere – is by issuing a closure plan that sets up what senior NMED officials call a “process” for writing a closure plan. The first step, the one to be taken this fall, is to approve a framework for studying background issues at the site, a step prior (if related at all) to the investigations needed to propose alternative remedies for the site. And that framework will be, as they said to us, the CAO! Thus the CAO will substitute for not just for the HSWA part of the LANL permit, but for the closure and post-closure plans as well. It will be, as NMED said to us on 7/5/02, “the first step in closure.” Thus, NMED will approve “a plan for a plan.”

Since the work required by the CAO will take years, it won't be concluded when Area G reaches full capacity and ceases operation, probably within about 4 years. In this way, the question of whether Area G needs to actually close will be delayed until it is moot. One can't implement a closure plan that is only a research program, aka the CAO. Nuclear waste disposal will, by that time, be in full progress at another site – one without any known exposure to RCRA regulation. And the next gubernatorial administration will be over.

In effect, the CAO will take the closure of Area G out of the hands of the next governor for his entire term.

In its April closure plans, DOE asserts, in defiance of NMED so far, that only one shaft and one pit at Area G have received regulated hazardous waste and need close, and therefore that “Area G” is not the site operationally known as Area G. Really.

7. “High-Performance Teams” (HPTs) are now meeting and making various preliminary (but likely to be permanent) decisions.

There are three or four, or possibly more, HPTs, composed of the regulators and regulated, meeting privately to vet the range of possible corrective actions and closure remedies for various sites. “Any decision

made [in one of these groups] would then be brought into the public notice and comment process,” said Greg Lewis on 7/5/02. This is the private process to which NMED is committed by means of the LOI (#3, above). These HPTs reportedly include teams for the “Airport Landfill,” for “TA-16,” and for “Material Disposal Areas” generally, of which “Area H” is a subset. It is to prevent this kind of decision-making that open-government laws have been enacted in our society.

8. A draft RCRA operating permit for LANL (Permit) will be issued by NMED circa October 1, 2002

It will include a corrective action (HSWA) module. It may include the CAO by reference, quite possibly the product of a negotiated (private) settlement between UC and NMED, because of the lawsuits filed in 4. and/or 5. above. The annual installation work plan (IWP) is already in place (no public hearings were held on the IWP in this or any year); the work plan of the CAO will almost certainly replace this portion of the permit.

There will be public notice and hearings during this process, as the law requires, but the main decisions on cleanup and closure will have already been made under items 2, 3, 4, 5, 6, 7, and possibly 11, and what is not already fixed may be approved as a “process,” something which can be defined as time and research go on, provided DOE fully funds the project. Those who fund the work will largely determine the nature of the work, both at LANL and at NMED, which is becoming more and more of a “consulting firm” to LANL as a result of these processes.

Actions constrained by items 4 and 5 may be firmly fixed, i.e. fixed beyond the legal reach of third parties who are not parties to the litigation and appeal. In this way the product of UC/DOE/NMED negotiations, which includes part of the outcome of the HPT process (item 7) could become “frozen” beyond the reach of the public.

Meanwhile the range of remedies for

HSWA corrective action and closure/post-closure would, according to DOE, be gravely constrained by item 9, should it pass and become law.

9. The Environmental Covenant Act (ECA)

The ECA was originally proposed for passage last year, but was withdrawn and recast instead as a memorial which simply endorsed the ideas of the law and called for NMED to draft it. It was defeated (largely by the Los Alamos Study Group and allies), but the act is quite likely to be resubmitted to the legislature again this coming year.

The ECA is a means to at least two ends. First, the ECA will establish a new exit clause for corrective action requirements under most, if not all, New Mexico environmental laws, namely “technical infeasibility.” For such sites, it will enshrine alternative land use, or restrictive zoning – i.e. regulation of the public, rather than the polluters – as a remedy option for essentially any site. Thus DOE would have statutory relief from residential and agricultural cleanup standards.

Second, for many contaminated sites, it will grant an pollution “easement” to the NMED, in effect making the NMED the owner of a real property interest in – pollution! NMED would be responsible for maintaining any environmental treatment works on the property and for enforcing land use (zoning) restrictions. This would be helpful in removing liability for any contamination on the large amounts of excess property DOE wishes to give away to local government and tribes, some of which is contaminated.

10. Performance Assessment (PA) process for Area G

This is a non-RCRA process, but the work done in it will underlie the RCRA choices made at this site. Under DOE Order 435.1 [ck], DOE must undertake an internal “licensing” process for its nuclear waste disposal sites, in some ways comparable to the formal licensing provided by the Nuclear Regulatory Commission (NRC) for

commercial low-level waste (LLW) sites. (A question arises as to whether there is a legal standard DOE must meet (e.g. “substantially the same” as the NRC process, perhaps in the Atomic Energy Act or another statute.) A team composed of DOE managers reviews a technical risk assessment for the site, called a Performance Assessment (PA). The current PA is known to be badly deficient. A new PA is to be released in early 2004, near the date when Area G is supposed to close (!). Substantively, the new PA will be largely applicable to the new disposal site, which is likely to be directly adjacent to Area G. Area G, for all its problems, is likely to be a better, possibly a significantly better, nuclear waste disposal site than any other site at LANL. It was well-chosen among the possible sites at LANL.

11. The “annual unit audit” process

NMED assesses hazardous waste fees based on the number of regulated “units” at a facility. Up to last year at least, LANL always asserted that Area G is one unit. Now LANL seeks to close a small portion of Area G, and leave the rest open as another unit, or several other units, for all we know. LANL asserts in its closure plan that it is in negotiations related to the annual unit audit process that the identity of Area G – the portion requiring closure – will be decided, rather than in an open permitting process. NMED officials tell us this is not the case.

NMED will probably receive more fees if Area G is split into many units, potentially giving NMED a serious negative incentive to “wholistic” closure of the site.

12. NMED enforcement actions at LANL

These exist but I do not have details about them. Each will create a separate negotiating forum at which a localized solution is found to the disputed regulatory finding in question, forums in which the public has not been involved. In theory, we could be. If not protested in a timely manner, these settlements will stand, and will bind NMED’s future choices, and will not be revisited in future permit hearings.

13. Permit modifications

A number of permit modifications have been written and approved for LANL, none of which has gone to public hearing with the possible exception of the incinerator in the mid-1990s. It will be difficult to “undo” any of these past decisions.

It should be repeated that, upon information and belief, and other than the incinerator hearing and the initial hearings conducted by EPA in 1989 (and then only on the HSWA module of the permit?) no public hearing has ever been convened for the LANL permit.

Upon information and belief, the LANL RCRA permit was issued, modified many times, ran its course, expired, and is now “continued” in some fashion pending NMED approval of a new permit, all without a single hearing ever having been held by NMED. Amazingly, even the expired permit has been modified several times, of course without a public hearing.

It is in the formal permit modification process that NMED could enforce cleanup requirements on LANL. Permits, including their modifications, are explicitly open to citizen lawsuits to compel compliance.