

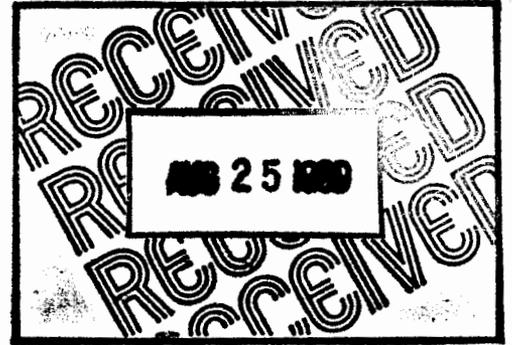


CCNS

Concerned Citizens for Nuclear Safety

August 24, 1989

Mr. William Gallagher, Chief Permitting ALONM Section (6H-PS)
U.S. Environmental Protection Agency
1445 Ross Avenue, Suite 1200
Dallas, Texas 75202-2733



Dear Mr. Gallagher:

The following are our comments on Module VIII of the draft permit for Los Alamos National Laboratory (LANL), to be issued under the authority of the Resource Conservation and Recovery Act.

A. General Comments

1. Module VIII is obviously a product of a lot of thought and research, and reflects a practical and conscientious approach to contaminated sites at LANL. It provides for a process for investigation and cleanup of Solid Waste Management Units (SWMU) about which, in many cases, very little is known. Perhaps in part because so little is known about some of these SWMUS, Module VIII is very vague in many crucial respects, and this is its greatest weakness. For while much is not known, much is known, and Module VIII has not used this existing knowledge to produce clear regulatory requirements.

While Module VIII offers a finely honed process, hardly any content (other than this process) is specified. It offers what appears to us to be a rather complicated and tangled web of investigative and remediative steps which will ultimately proceed for a generation or perhaps longer without establishing clear criteria for success. It is a process to produce plans for investigations which will produce studies for remediation alternatives, and so on. While we applaud the thoroughness of this process, we note that the actual tasks to be done are hardly specified, and the actual implementation of corrective measures is not specifically mentioned. We believe this approach will cause the actual decisions governing cleanup to occur without effective input from the public and in all likelihood without effective input from either Federal or State regulatory agencies as well.

To put it another way, Module VIII defers nearly all the major decisions about remediation (not to mention the expenses relating to remediation) to the distant and uncertain future, where they may well be made in reference primarily to complex and soon-to-be-entrenched institutional and career objectives. The main thrust of the Module VIII process appears to be reports; actual remediation (to the extent it occurs) will be a fortunate byproduct, it appears to us.



We therefore suggest that Module VIII be rewritten to incorporate much more specific requirements for action, based on what is already known about the site and on explicit regulatory decisions (e.g. concerning cleanup standards, about which we will offer some suggestions below).

2. The procedures given in Module VIII ensure, we suspect, that the EPA will be kept at arm's length from the site. A regulatory process, however careful, cannot replace detailed, personal knowledge of a site by the regulator. The regulated parties will, with Module VIII as it is written, be gaining virtually all the intimate experience at the site, and the EPA will be kept in a decidedly inferior position as far as detailed knowledge is concerned. While it makes sense for the EPA, a publicly-funded agency, to not subsidize private industry by doing investigation and analyses for them, this approach makes much less sense when the regulated entity is also a publicly-funded agency. The DOE needs to provide adequate funds to EPA to allow an adequate regulatory presence in this case, and Module VIII should be rewritten to give EPA greater responsibility in design and oversight of investigations, in design of remediation timetables, criteria, and strategies, and in enforcement. We believe EPA (not its contractors) should develop and maintain its own long-term institutional memory about this project--a memory not residing in just one or two people--and that this knowledge should be developed and maintained in partnership with the State Environmental Improvement Division (EID). It would be appropriate, we believe, for the EPA to place personnel in or near EID's Santa Fe office on a semi-permanent (and perhaps rotating basis); we do not think that opening an EPA office in Los Alamos itself would be advisable.

3. Module VIII lacks remediation criteria. Without these, there is insufficient context even for the design of investigations, because it will not be clear to the investigators what is or might be significant (no matter how carefully it is spelled out) and what is not. It would be far better for all the parties involved to discuss these criteria now than for site-specific criteria to be quietly proposed by DOE one at a time over a number of years. We feel these criteria should:

- a. include protection of the environment in addition to protection of human health, which environment naturally includes all the LANL site;
- b. involve compliance perimeters which tightly circumscribe the existing contaminated areas (present DOE and LANL philosophy is, often, to refer exposures to the facility boundary, which boundary should, we believe, play little part in remediation decisions);
- c. provide for containment of all waste within these perimeters for the lifetime of the waste, or as much containment as can be achieved with the best available technology;
- d. provide for the removal, treatment, or other mitigation of waste bodies for which containment for the lifetime of the waste cannot be achieved; and
- e. include exposure limits which are as low as practicable.

We recognize that these criteria are somewhat vague and incomplete but they are offered here as an indication of the direction we think EPA should be heading. We are sure that with further work you will be able to improve on the ideas given here (and throughout these comments).

4. The regulatory environment of Module VIII is one that is fractured into a number of jurisdictions--concerning RCRA waste, mixed waste, Atomic Energy Act-exempted materials, etc--and EPA, EID, and DOE should formalize their mutual intent to remediate all these categories of hazards together in one open process.

5. It is important to investigate, as rapidly as possible, past waste disposal using the techniques of the historian, including interviewing people formerly involved in waste management and searching through documents. Much of LANL's institutional memory about waste handling in the early years of the Lab is now rapidly disappearing. It is unlikely, we feel, that investigations of SWMUS can be complete without utilizing non-technical, human sources of information.

6. Module VIII should contain a schedule for the implementation--not just the selection--of corrective measures. As it now stands, Module VIII calls for a great deal of research, in principle no different than the research LANL has been doing for years on waste management. LANL is a research establishment, and will have to receive strong encouragement to commit any significant monies to remediation projects that are not just research, particularly if those projects throw an economic shadow on current disposal practices, let alone on local real estate values. Already there is contempt in many LANL circles for what is termed there "bulldozer technology;" which may unfortunately mean any practical geotechnical stabilization techniques which do not result in research grants and scientific career advancement. It is quite possible, perhaps likely, that a billion or two billion dollars can be spent over the years without an effective remediation program--all in the name of thorough research.

We believe that the investigation schedule you have outlined is too slow. Speeding up this schedule--to, say, twice its current pace--would accomplish several objectives: 1) it would require the Lab to commit greater resources to the problem and thus lend the project greater political acceptability within the Lab, making it more likely that difficult remediation alternatives be seriously considered; 2) it would make urgent historical research more timely; 3) it would make effective public participation more likely; 4) it would arrange regulatory decisions densely in time, before the inevitable accommodation, familiarity, and job exchange occurs that are the hallmark of all long-term regulatory relationships; and 5) the commitment of resources involved would send the correct economic signals to LANL managers concerning current waste practices. The main countervailing consideration, assuming three or four years are allowed to physically do the investigations, is primarily regulatory staffing level, a problem you will have to address creatively in any case. We urge you to examine this issue carefully.

B. SPECIFIC COMMENTS [brackets give page no., section or paragraph]

1. [2, B.1.(a)] This requirement apparently only reiterates RCRA's general waste reduction requirement, and should be made specific by EPA to LANL. Since radioactive and mixed waste containing long-lived transuranics and highly-mobile tritium is still being land-disposed at LANL, and since the long-term safety of land disposal at LANL is still, we believe, unknown, this waste-reduction requirement is especially important.

We think the intent of this requirement would require, at an initial minimum, that LANL prepare a flow chart or matrix detailing the wastes it produces, both a) by quantity and type, including all radioisotopes, and if consistent with security considerations, b) by building/tech area and program.

2. [5, B.] The system of monitoring wells and borings proposed for the perched zones in the canyons appears, at first examination, to be far from adequate. Can it be that one to three wells and/or borings are sufficient to characterize these aquifers and delineate the vertical and horizontal extent of any contamination in them? LANL has for many years done hydrogeological background studies which have produced sparse data without, in many cases, reaching definitive conclusions. As a general principle, the present efforts should build on those background studies and be of sufficient detail to create a firm basis for remediation decisions. In no case should modelling or theoretical studies take the place of a full and unimpeachable set of empirical data, when that data can be physically collected.

The canyons investigated should include all those which have anthropogenic as well as natural aquifers. Also note that ephemeral aquifers in canyons, while difficult to study, are a principle source of groundwater recharge, and hence of possible waste constituent mobilization, in this region.

Utmost care should be taken to avoid introducing into the sampling zone materials (e.g. bentonite) which might be capable of adsorbing waste constituents.

3. [7., 1st para.] Without further study we cannot be sure that existing LANL monitoring of the main aquifer is sufficient to "demonstrate protection of the main aquifer," although we too believe this monitoring should be continued. It is known that there is infiltration through the waste at LANL; it is not known where this infiltration goes, how fast it goes, or what its significance is.

4. [7., 2nd para.] While concurring in the spirit of this requirement, we feel it is nevertheless not sufficient for LANL to "attempt" "to insure containment of all residual sediment contamination within the facility boundary." How can this be enforced? How hard must LANL "attempt" to do this. And for how long?

5. [7a., last para.] We agree that it is necessary to determine the properties of the tuff, both intact and as crushed and emplaced, and in various locales corresponding to SWMUS and to variations in tuff welding. LANL has done considerable work of this type already, but much of this work has been done in a scattered sort of way--e.g. with only a few samples, extrapolating results into the range of interest with theoretical predictions, without statistical analyses, etc.--and some of it is almost anecdotal. At the same time, there are problems associated with determining extensive properties of the formations from cores alone. The point we are making is that EPA should require that these determinations be done with greater care so that the data obtained can serve as a common starting point for all future discussions about leaching, remedial design, etc. for the SWMUS.

6. [7b., last para.] Not only should summaries of all past studies be provided to the Administrative Authority, in this case the EPA, but also to the State EID and to citizens' organizations like ours. This should be true for all submittals; it will not be possible to have meaningful consultation with the State or meaningful public participation without giving working copies of reports to these parties. Where significant volumes of data are involved, or where digitized maps are involved, it will also be important to give this information to interested parties in magnetic form as well. It will be very much in LANL's interest to reduce the climate of mistrust that now hangs over LANL, as it does over DOE facilities nationwide.

7. [8., 2nd para.] Please note that the framers of RCRA and the authors of 40CFR 264. require "corrective action...to protect" not just public health but also the "environment." We believe that "the environment" does not begin outside the (ephemeral) facility boundary, but instead includes everything inside that boundary as well, as noted above. We encourage you to formalize this in your permit wherever you can.

8. [8., 4th para.] RCRA carries criminal penalties for falsification of information submitted to the administrative authority, doesn't it?

9. [19., priority SWMUS] Area G is a swmu which is actively receiving radioactive waste--waste which we believe still includes occasional high-level as well as low-level and (stored) TRU waste. It should be one of the highest-priority SWMUS.

10. [20., para. 4 part ii] EPA and EID must be able, not only to split samples, but to themselves sample at any time and any place. And this should from time to time be done, which argues for a New Mexico EPA office capable of projecting a regulatory presence toward LANL.

11. [23., 5th para.] The language "given site-specific exposure conditions" undercuts the broader language of 40CFR 264. quoted above. "Environment" is not another word for public health.

The criteria for requiring corrective measures studies must include the possibility of releases over the lifetime of the wastes, not just past or current releases and risks.

12. [24., 1st para.] The "overall objectives," "remedy standards," and "schedules for conducting...study" mentioned in items b, c, and d do not appear in Module VIII; is LANL to propose these? These vital matters should not be proposed by the regulated facility but should be in EPA's draft permit requirements and available for public comment. To hand over these vital matters to the regulated entity, without guidance, is to hand over the heart of the regulatory process, we believe.

13. [25., O.1.] Does the phrase "further releases that might pose a threat to human health and the environment" imply that there are releases of hazardous materials which do not pose a threat to the environment?

14. [25., O.2.a.4] "Institutional controls" may not be relevant for long-lived radionuclides.

15. [33., Task 1.A] Topographic maps should be prepared at very close contours (e.g. 1-2 feet), in most, if not all, cases. Existing 5-10 foot contour maps are not adequate to study surface drainage and reportedly include errors (e.g. contouring of tree-tops).

Absent from this list are climatological studies. Water balance scenarios worked out by the State EID, together with past LANL studies, show that in wet years, significant infiltration can and does occur. Furthermore, the potential for infiltration varies significantly over the LANL reservation, according to weather data. Have more detailed empirical studies of water balance been conducted? If not, perhaps such studies should be incorporated into an early phase of this overall investigation.

The geologic map you mention apparently already exists in unpublished form and should not be difficult to produce.

16. [37., Task II.B] This is a sound requirement; LANL should be required to furnish data in a form that is easy to update and summarize to both the State and to citizens' groups as well as to EPA.
17. [40., 1st para.] It must be made very clear, again, that the relevant time-frame against which contaminant movement and possible risks therefrom are to be evaluated is the lifetime of the wastes involved.
18. [44., Air Contamination] Absent from your list of investigation requirements is a consideration of airborne releases which might occur in the future.
19. [49., Task VI.B] We are not sure why the permittee should be devising the site-specific corrective action objectives, and why these objectives are not themselves constrained by facility-wide objectives that are explicit in this Module.

This concludes our comments on Module VIII. We appreciate the opportunity to comment and are available to respond to any questions or comments you or the permittees may have about these comments. If there are places where these comments reflect our lack of knowledge we want to be educated, and none of the perspectives given here are "cast in concrete." Nevertheless we hope they are helpful to you and that you give them the greatest attention.

Respectfully submitted,



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