

Permit

Mr. Donivan R. Porterfield  
PO Box 1417  
Los Alamos, NM 87544

June 7, 2002

James P. Bearzi, Chief  
Hazardous Waste Bureau  
New Mexico Environment Department  
2905 Rodeo Park Drive East, Building 1  
Santa Fe, NM 87505-6303  
Ref: Los Alamos National Laboratory Facility Order



Dear Mr. Bearzi:

The attached comments are in response to the request for public comments on the New Mexico Environment Department issuance of a Draft Corrective Action Order to Los Alamos National Laboratory.

Sincerely yours,

A handwritten signature in black ink, appearing to be "DRP".

Mr. Donivan R. Porterfield



16060

**Comment 1, General**

Given the quantity of sampling and level of documentation required by this order I'm concerned that the simple handling of paper will introduce delays in the process. Due consideration should be given to electronically archiving the generated documentation so that they may be quickly accessed as needed by the Respondents and Department personnel.

**Comment 2, General**

Given the implication of an "imminent and substantial endangerment to health or the environment" I feel that it is incumbent for the Department to provide a schedule for their consideration and making response to the reports required of the Respondents. Consideration should be given to having a separate organization monitor the timeliness of both Respondents submissions and Department responses, e.g. the NMED DOE Oversight Bureau, Carlsbad Center for Environmental Monitoring and Research Center, or New Mexico Environmental Evaluation Group.

**Comment 3, General**

Although still in draft I believe the content of the Multi-Agency Radiological Laboratory Analytical Protocols Manual (MARLAP) may be of assistance to the Department in arriving at final Order content and in later stages of the implementation process.  
<http://www.eml.doe.gov/marlap/>

**Comment 4, Section IV.A.3.f(4)**

*"technicium-99"*

This element should be spelled as 'technetium' as is done in II.A.5(11).

**Comment 5, Section IV.A.3.f(4)**

*"isotopic americium, isotopic uranium, isotopic plutonium"*

If only americium-241 is expected then it should be explicitly indicated instead of 'isotopic americium'. While 'isotopic uranium' typically implies only uranium-234, uranium-235, and uranium-238 some might also consider it to include uranium-236, an indicator of irradiated enriched uranium fuel. Likewise, while 'isotopic plutonium' typically implies plutonium-238 and plutonium-239+240 some might consider it to also include plutonium-240 individually, plutonium-241, and plutonium-242. These higher plutonium isotopes being more prevalent in high burn-up plutonium.

**Comment 6, Section IV.A.3.f(4)**

*"gamma spectroscopy"*

Gamma spectroscopy is a technique and not an analyte and would therefore require a list of radionuclides to be reported from this analysis. To prevent the introduction of biases between analytical laboratories this list should explicitly indicate peaks to be quantitated,

photon abundances, and half-lives for each radionuclide to be quantitated. I would suggest that the Department, the Respondents, and the analytical laboratories to be used collaboratively generate such a list.

Comment 7, Section IV.A.3.f(4)

“Radionuclide analyses shall include gross alpha/beta, tritium, strontium-90, technicium-99, cesium-137, isotopic americium, isotopic uranium, isotopic plutonium, and gamma spectroscopy.”

I’m concerned whether a thorough objective process has been used to arrive at a radionuclide target list or if we’re simply relying on someone’s best guess? For example, I believe some other DOE sites analyze for Np-237 (a daughter in the Pu-241 > Am-241 decay chain) and others analyze for I-129 (a long-lived fission product). I would hope that the radionuclide target list in the final order is the result of thorough objective examination of those radionuclides historically and currently produced and used at the Respondents facility.

Comment 8, Section IX.B.2.d

*“The field screening results shall be considered acceptable if there is not greater than a 20 percent variance between the measurements. The instrument(s) shall be checked each day for proper operation and calibration using a National Institute of Standards and Testing traceable source. Field screening of the sample shall be repeated if there is greater than a 20 percent variance between field screening measurements for any sample.”*

There is redundant mention of the 20 percent variance criteria. The requirement for NIST traceability is overly vague. The following would be an improvement: “The instrument(s) shall be calibrated using a representative soil matrix containing National Institute of Standards and Testing traceable quantities of the emitter (alpha, beta, or gamma) to be measured. The instrument(s) shall be checked each day for proper operation based on statistical process control using a NIST traceable source.”

Consideration should also be given to the specification of explicit alpha, beta, and gamma emitters (e.g. Pu-239, Sr-90+Y-90, and Cs-137) otherwise inconsistent emitters will introduce bias in the measurements.

Comment 9, Section IX.C (Chemical Analyses)

*“Analytical results, within two sigma uncertainty and above the method detection limit, shall be reported as detections for all contaminants including radionuclides.”*

It is unclear whether the indicated “two sigma uncertainty” represents only counting uncertainty or total propagated uncertainty?

Comment 10, Section IX.C (Chemical Analyses)

*“Analytical results, within two sigma uncertainty and above the method detection limit, shall be reported as detections for all contaminants including radionuclides.”*

It is unclear what the analytical result should be within two sigma uncertainty of to be considered a detection? For example should the analytical result be greater than two sigma uncertainty above zero?

Comment 11, Section IX.C (Chemical Analyses)

*“Analytical results, within two sigma uncertainty and above the method detection limit, shall be reported as detections for all contaminants including radionuclides.”*

There are a variety of approaches to the calculation of “method detection limit” for radionuclide methods. Does the Department have no preference or desire for uniformity in this respect?

Comment 12, Section IX.C (Chemical Analyses)

*“Analytical results, within two sigma uncertainty and above the method detection limit, shall be reported as detections for all contaminants including radionuclides.”*

Given that it is uncharacteristic to report uncertainties for inorganic and organic analyte results it is unclear how the above detection criteria would apply when no uncertainty is reported.

Comment 13, Section IX.C (Chemical Analyses)

*“The Respondents shall use the most recent standard EPA and industry-accepted analytical methods for chemical and radiological analyses for target analytes as the testing methods for each media sampled. Chemical analyses shall be performed in accordance with the most recent EPA standard analytical methodologies and extraction methods. In addition, the Respondents shall use the most recent EPA and accepted industry-wide standard, accurate and dependable methods for detecting the presence of radionuclides.”*

All three sentences of this paragraph seem quite redundant.

Comment 14, Section IX.C (Chemical Analyses)

*“The detection limits for each method shall be less than applicable background, screening and regulatory cleanup levels.”*

It is unfortunate that this order does not better define the concept of ‘detection limit’. There are a variety of approaches used for the determination of ‘detection limit’. The more popular approach (40 CFR 136 Appendix B) has its drawbacks. The following references are just two from a large number in the literature that may be of use in giving more careful consideration to this issue:

1) Analytical Detection Limit Guidance & Laboratory Guide for Determining Method Detection Limits, Wisconsin Department of Natural Resources Laboratory Certification Program, April 1996, PUBL-TS-056-96.

<http://www.dnr.state.wi.us/org/es/science/lc/download/Loddoc.pdf>

2) Guidance on Data Quality Indicators, EPA QA/G-5i, Peer Review Draft, September 2001, section 3.5 (Sensitivity).

<http://www.epa.gov/quality/qs-docs/g5i-prd.pdf>

Comment 15, Section IX.C.1 (Laboratory QA/QC Requirements)

*“Respondents shall provide the names of the contract analytical laboratories and copies of the laboratory quality assurance manuals to the Department within forty-five (45) days of awarding a contract for analytical services to any contract laboratory.”*

It is unclear whether this language precludes the usage of Respondents own internal analytical capabilities for the analysis of samples?

Comment 16, Section IX.C.1 (Laboratory QA/QC Requirements)

It is disappointing that there is no stated requirement for analytical laboratories to participate in performance evaluation programs in which single-blind samples are distributed for analysis. In the area of radionuclides examples would be the DOE-EML Quality Assurance Program (QAP), NIST Radiological Intercomparison Program (NRIP), Environmental Resource Associates Proficiency Testing programs, Analytix Inc. environmental measurements laboratory performance evaluation. I would suggest consideration be given to requiring the participation in at least two of these programs to give the public independent assurance of the quality of these laboratories.

[www.eml.doe.gov/qap/](http://www.eml.doe.gov/qap/)

[physics.nist.gov/Divisions/Div846/Gp4/Environ/nrip.html](http://physics.nist.gov/Divisions/Div846/Gp4/Environ/nrip.html)

[www.eraqc.com/radiochem.html](http://www.eraqc.com/radiochem.html)

[www.analytixinc.com/environmentalmeasurements.htm](http://www.analytixinc.com/environmentalmeasurements.htm)

Comment 17, Section IX.C.1.a (Quality Assurance Procedures)

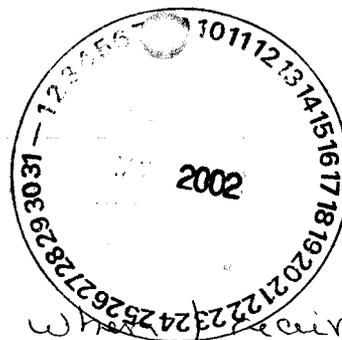
*“The laboratories shall establish control limits for individual chemicals or groups of chemicals based on the long-term performance of the test methods. In addition, the laboratories shall establish internal QA/QC that meets EPA's laboratory certification requirements.”*

I would feel better about the efficacy of the above requirements if specific reference would be made to “EPA’s laboratory certification requirements”.

Comment 18, Section IX.C.1.a (Quality Assurance Procedures)

*“The laboratories shall establish control limits for individual chemicals or groups of chemicals based on the long-term performance of the test methods.”*

It would seem more appropriate for control limits to be established based on the data quality objectives required by the decisions the Department envisions making based on the resulting data. The current language would seem to allow each analytical laboratory to set control limits based on how well or poorly they historically perform these methods. In other words we don’t care how bad the data is as long as it’s consistently bad.



5-7-2

Dear Mr. Bearzi:

I was relieved when I received your letter pertaining to an investigation of Los Alamos laboratory and the clean up procedure. It is very nice to know that certain measures will be taken to protect our beautiful state from more abuse. My father was instrumental in the 1970's in studying the effects of radiation and creating safety guidelines. It will be wonderful to see them enforced.

Sir, my question to your bureau is this - what will Los Alamos be required to do for all the people who have suffered "health" problems due to this negligence? Currently, I am in Michigan to support my husband as he undergoes chemotherapy treatment for cancer. Both of my parents now suffer from thyroid problems and I could list at least 30 New Mexican residents whom I have an "illness" that is very likely to have been caused by this gross negligence. Of course, I do not have factual data - but I do think <sup>your</sup> ~~an~~ investigation should be extended into this arena as well.

Thank you, sir, for keeping me informed. I am hopeful I will be able to return to my home state soon.

Sincerely,

*[Signature]*

X

Allen  
2734 Maplewood  
Ann Arbor, MI  
48104



2750516303

State of Michigan  
Attention: James P. Buzzi

State of Michigan  
Environment Department  
Hazardous Waste Bureau  
2905 Resero Park Drive East  
Livonia, MI 48150

2750516303

failure notice

I called for your snail address + this is what the NMED receptionist gave me.

P McM.

**Subject:** failure notice

**Date:** 31 Jul 2002 19:58:29 -0000

**From:** MAILER-DAEMON@puerco.nm.org

**To:** pmsl@osogrande.com

Hi. This is the qmail-send program at puerco.nm.org.  
I'm afraid I wasn't able to deliver your message to the following addresses.  
This is a permanent error; I've given up. Sorry it didn't work out.

<james\_bearzi@nmed.state.us>:  
Sorry, I couldn't find any host named nmed.state.us. (#5.1.2)

--- Below this line is a copy of the message.

Return-Path: <pmsl@osogrande.com>  
Received: (qmail 19214 invoked from network); 31 Jul 2002 19:58:28 -0000  
Received: from unknown (HELO osogrande.com) (129.121.248.170)  
by puerco.nm.org with SMTP; 31 Jul 2002 19:58:28 -0000  
Message-ID: <3D48442B.2A0DDB20@osogrande.com>  
**Date:** Wed, 31 Jul 2002 14:10:19 -0600  
From: Penny McMullen <pmsl@osogrande.com>  
X-Mailer: Mozilla 4.7 [en] (Win98; U)  
X-Accept-Language: en  
MIME-Version: 1.0  
To: james\_bearzi@nmed.state.us  
Subject: order to LANL  
Content-Type: text/plain; charset=us-ascii  
Content-Transfer-Encoding: 7bit

James P. Bearzi, Chief  
Hazardous Waste Bureau  
New Mexico Environment Department  
2905 Rodeo Park Drive East, Building 1  
Santa Fe, NM 87505-6303

→ Re: Los Alamos National Laboratory Facility Order

Dear Mr. Bearzi:

I respectfully submit the following comments on behalf of the Sisters of Loretto regarding New Mexico Environment Department's (NMED's) May 2, 2002 draft order issued to the Los Alamos National Laboratory (LANL). I have two main issues.

1) First of all, we are pleased that NMED is considering such an order which is certainly needed, and we are grateful for the opportunity to comment on the draft. Our desire is that the order be strong enough to be effective, and hope it is not something hastily put together to appease the public.

We hope that NMED would install a strong enforcement program. If

funding is a problem, why not have DOE and UC pay for the enforcement of what they should have done without this order? We also request that NMED use their right to civil litigation if DOE or UC do not comply with the order within timelines that should be clearly stated in the order.

2) There should be clear provisions in the order for the public to continue to participate in the process of any investigations and cleanup plans.

I have been concerned for some years now about the Pajarito Plateau and the descendants of the homesteaders before LANL was established. The area needs to be cleaned up to the level it was before the area was taken from the homesteaders, and then returned to the descendants. These descendants need to be personally involved in the drafting of the order so that all of their concerns will be met.

Since the Pajarito Plateau contains many sacred Pueblo sites, the Pueblos also need to be personally invited to be involved in the drafting of the order so that all of their concerns will be met.

Santa Fe County and its citizens needs to be considered as a party wherever surrounding entities are described.

Finally, I leave the more technical responses to those whose full-time work is to study these topics. The Loretto Community trusts the work of CCNS, SRIC and Nuclear Watch, and supports their observations.

Thank you,

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P.S. Would it be possible for NMED to include information on how to open documents on its website or attachments to email for those of us who have old computers and software?