

August 22, 2008

G. Scott Ward, Senior Vice President  
General Manager, Chemical Services  
Analytical Bio-Chemistry Laboratories, Inc.  
7200 E. ABC Lane  
Columbia, Missouri 65202

SUBJECT: NRC ROUTINE INSPECTION REPORT NO. 030-05154/08-01(DNMS) AND  
NOTICE OF VIOLATION – ANALYTICAL BIO-CHEMISTRY LABORATORIES,  
INC.

Dear Mr. Ward:

This refers to the inspection conducted on May 12 and 13, 2008 and June 25 and 26, 2008, with continuing NRC in-office review through August 20, 2008. The continuing in-office review included a review of your internal dosimetry program. This inspection was an examination of activities conducted under your license as they relate to safety and compliance with the Commission's rules and regulations and with the conditions of your license. Within these areas, the inspection consisted of selected examination of procedures and representative records, observations of activities, and interviews with personnel.

Based on the results of the inspection, the NRC has determined that two Severity Level IV violations of NRC requirements occurred. The violations were evaluated in accordance with the NRC Enforcement Policy. The current Enforcement Policy is included on the NRC's Web site at <http://www.nrc.gov/about-nrc/regulatory/enforcement/enforcement-pol.html>. The violations are cited in the enclosed Notice of Violation (Notice). The violations are being cited in the Notice because they were identified by the NRC.

The first violation concerns the failure to properly dispose of licensed material. Specifically, your staff disposed of a brush that was contaminated with carbon-14 in a non-radioactive waste container outside of the restricted area. While conducting routine inspection surveys, the inspectors identified several items which were contaminated with carbon-14 that had not been identified as contaminated by your staff. In one instance, a technician performing radiological surveys in the waste storage building contaminated his hand with carbon-14. The contamination was located on the top of a waste barrel which, was not identified as being contaminated. The inspectors identified three other barrels within the waste storage building with contamination on the lids which were not identified or controlled as contaminated. The inspectors also found low levels of carbon-14 contamination in unrestricted areas which included a calculator, clothing, and flooring material.

The second violation concerns the failure to use appropriate internal dose calculations to estimate the dose to occupational workers. Specifically, the inspectors identified that the dose calculations your staff used prior to the inspection were underestimating the internal dose for occupational workers at your facility. During the inspection, the inspectors noted it took significant efforts to obtain and evaluate information regarding revised internal dose assessments and skin dose assessments to the technician mentioned in the paragraph above.

The NRC expects licensee's to take timely actions to ensure compliance with dose limits and perform dose assessments to ensure that the licensee does not give additional dose to occupational workers or general members of the public which would exceed NRC regulatory dose limits.

In addition to responding to the two violations discussed above, the NRC requests that you describe any efforts that you are taking to address timeliness of dose assessments, contamination control methods to reduce the possibility of contamination being in unrestricted areas of your facility, and any efforts that you are taking to reinforce sound radiological practices to your radiation work force.

The violations are cited in the enclosed Notice of Violation (Notice) and the circumstances surrounding them are described in detail in this letter. You are required to respond to this letter and should follow the instructions specified in the enclosed Notice when preparing your response. For your consideration and convenience, an excerpt from NRC Information Notice 96-28, "Suggested Guidance Relating to Development and Implementation of Corrective Action," is enclosed. The NRC will use your response, in part, to determine whether further enforcement action is necessary to ensure compliance with regulatory requirements.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter, its enclosures, and your response will be made available electronically for public inspection in the NRC Public Document Room or from the NRC's document system (ADAMS), accessible from the NRC Web site at <http://www.nrc.gov/readingrm/adams.html>. To the extent possible, your response should not include any personal privacy, proprietary, or safeguards information so that it can be made available to the Public without redaction.

We appreciate your cooperation and will gladly discuss any questions you have concerning this inspection.

Sincerely,

**/RA/**

Patrick L. Loudon, Chief  
Materials Inspection Branch

Docket No. 030-05154  
License No. 24-13365-01

Enclosures:

1. Notice of Violation
2. Excerpt from NRC Information Notice 96-28

cc: Sheila Hecht, Radiation Safety Officer  
State of Missouri

The NRC expects licensee's to take timely actions to ensure compliance with dose limits and perform dose assessments to ensure that the licensee does not give additional dose to occupational workers or general members of the public which would exceed NRC regulatory dose limits.

In addition to responding to the two violations discussed above, the NRC requests that you describe any efforts that you are taking to address timeliness of dose assessments, contamination control methods to reduce the possibility of contamination being in unrestricted areas of your facility, and any efforts that you are taking to reinforce sound radiological practices to your radiation work force.

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Patrick L. Loudon, Chief  
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cc: Sheila Hecht, Radiation Safety Officer  
State of Missouri

**\*See previous concurrence**

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Letter to G. Ward from Patrick L. Loudon dated August 22, 2008

SUBJECT: NRC ROUTINE INSPECTION REPORT NO. 030-05154/08-01(DNMS) AND  
NOTICE OF VIOLATION – ANALYTICAL BIO-CHEMISTRY LABORATORIES,  
INC.

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## NOTICE OF VIOLATION

Analytical Bio-Chemistry Laboratories, Inc.  
Columbia, Missouri

Docket No.: 030-05154  
License No.: 24-13365-01

During an NRC inspection conducted on May 12 and 13, 2008 and June 25 and 26, 2008, with continuing NRC in-office review through August 20, 2008, two violations of NRC requirements were identified. In accordance with the NRC Enforcement Policy, the violations are listed below:

1. Title 10 CFR 20.2001(a) requires that the licensee dispose of licensed material only by specified procedures.

Contrary to the above, on June 25, 2008, the licensee disposed of approximately 1700 becquerels of carbon-14 by releasing this material to a non-radioactive trash container, a method not authorized by §20.2001.

This is a Severity Level IV violation (Supplement IV).

2. Title 10 CFR 20.1501 requires that each licensee make or cause to be made surveys that may be necessary for the licensee to comply with the regulations in Part 20 and that are reasonable under the circumstances to evaluate the extent of radiation levels, concentrations or quantities of radioactive materials, and the potential radiological hazards that could be present. Title 10 CFR 20.1003 states, in part, that *survey* means an evaluation of the radiological conditions and potential hazards incident to the production, use, transfer, release, disposal, or presence of radioactive material or other sources of radiation.

Title 10 CFR 20.1201 requires, in part, that the licensee limit the annual total effective dose equivalent to 5 rems.

Contrary to the above, as of June 25, 2008, the licensee did not make surveys to assure compliance with 10 CFR 20.1201, which limits annually the total effective dose equivalent to 5 rems. Specifically, the licensee used incorrect bioassay dose calculations values concerning internal intakes of carbon-14 which resulted in the underestimated dose to occupational workers.

This is a Severity Level IV violation (Supplement IV).

Pursuant to the provisions of 10 CFR 2.201, Analytical Bio-Chemistry Laboratories, Inc. is hereby required to submit a written statement or explanation to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC 20555-0001, with a copy to the Regional Administrator, Region III within 30 days of the date of the letter transmitting this Notice of Violation (Notice). This reply should be clearly marked as a "Reply to a Notice of Violation" and should include for each violation: (1) the reason for the violation, or, if contested, the basis for disputing the violation or severity level, (2) the corrective steps that have been taken and the results achieved, (3) the corrective steps that will be taken to avoid further violations, and (4) the date when full compliance will be achieved. Your response may reference or include previous docketed correspondence, if the correspondence adequately addresses the required response.

If an adequate reply is not received within the time specified in this Notice, an order or a Demand for Information may be issued as to why the license should not be modified, suspended, or revoked, or why such other action as may be proper should not be taken. Where good cause is shown, consideration will be given to extending the response time.

If you contest this enforcement action, you should also provide a copy of your response, with the basis for your denial, to the Director, Office of Enforcement, United States Nuclear Regulatory Commission, Washington, DC 20555-0001.

Your response will be made available electronically for public inspection in the NRC Public Document Room or from the NRC's document system (ADAMS), accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html>. Therefore, to the extent possible, the response should not include any personal privacy, proprietary, or safeguards information so that it can be made available to the Public without redaction.

In accordance with 10 CFR 19.11, you may be required to post this Notice within two working days.

Dated this 22<sup>nd</sup> day of August 2008