

INSPECTION RECORD

Region III Inspection Report No. 2008-001  
License No. 24-13365-01 Docket No. 030-05154

Licensee (Name and Address):

Analytical Bio-Chemistry Laboratories, Inc.  
7200 E. ABC Lane  
Columbia, Missouri 65202

Licensee Contact: Sheila Hecht – RSO Telephone No. 573-443-9070

Priority: 3 Program Code: 3610

Date of Last Inspection: March 29, 2005

Date of This Inspection: May 12-13 and June 25-26, 2008 with continuing NRC review through August 20, 2008

Type of Inspection: ( ) Initial ( ) Announced (X) Unannounced  
(X) Routine ( ) Special

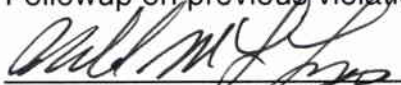
Next Routine Inspection Date: October 2008 ( ) Normal (X) Reduced


Justification for reducing the routine inspection interval:

The lack of the licensee's management oversight radiation safety program which included contamination outside restricted areas, lack of an internal dosimetry program and other dose assessment mechanisms were of a sufficient NRC management concern to warrant a reduced inspection frequency; in accordance with MC2800 (section 06.04).

Summary of Findings and Actions:

- ( ) No violations cited, clear U.S. Nuclear Regulatory Commission (NRC) Form 591 or regional letter issued
- ( ) Non-cited violations (NCVs)
- ( ) Violation(s), Form 591 issued
- (X) Violation(s), regional letter issued
- ( ) Followup on previous violations

Inspector(s)  Date 10/14/08  
Michael LaFranzo – Health Physicist

 Date 10.14.08  
for Dr. Peter Lee – Health Physicist - HAS SEEN

 Date 10.14.08  
for George McCann – Senior Health Physicist HAS SEEN

Approved  Date 10.14.08  
Patrick L. Loudon, Chief

## **PART I-LICENSE, INSPECTION, INCIDENT/EVENT, AND ENFORCEMENT HISTORY**

### **1. AMENDMENTS AND PROGRAM CHANGES:**

<u>Amendment No.</u>	<u>Date</u>	<u>Subject</u>
28	9/14/2006	Change in RSO
29	12/15/2006	Change in Radiation Safety Committee personnel.
30	7/25/2007	License Renewal
31	10/19/2007	Decommissioning Surveys
32	11/28/2007	Decommissioning Activities
33	6/11/2008	Additional location of use

### **2. INSPECTION AND ENFORCEMENT HISTORY:**

During the last routine inspection on March 29, 2006, a single violation of NRC requirements was identified regarding the licensee's failure to conduct quarterly wipe surveys. The subsequent routine inspection conducted on March 3, 2004 identified no violations of NRC requirements.

### **3. INCIDENT/EVENT HISTORY:**

(List any incidents, or events reported to NRC since the last inspection. Citing "None" indicates that regional event logs, event files, and the licensing file have no evidence of any incidents or events since the last inspection.)

None

## **PART II - INSPECTION DOCUMENTATION**

### **1. ORGANIZATION AND SCOPE OF PROGRAM:**

G Scott Ward – Vice President, General Manager, Chemical Services  
Sheila Hecht – Radiation Safety Officer

The licensee had two locations of use. The primary location was at 7200 E. ABC Lane. The licensee performs licensed activities with, primarily, carbon-14. The licensee used the carbon-14 for experimental purposes in microcurie quantities but also uses carbon-14, in several chemical forms, as part of a manufacturing/distribution process using hundreds of millicuries. The licensee primarily used licensed material Monday through Friday. The licensee had one radiation safety officer and two technicians.

The licensee's new location of use started in June 2008 and uses microcurie quantities of licensed material for research and development purposes.

### **2. SCOPE OF INSPECTION:**

(Identify the inspection procedure(s) used and focus areas evaluated. If records were reviewed, indicate the type of record and time periods reviewed)

Inspection Procedure(s) Used: 87125

Focus Areas Evaluated: 03.01-03.07

Primary focus areas included the licensee's internal dosimetry program, inventory program and general health and safety practices.

### **3. INDEPENDENT AND CONFIRMATORY MEASUREMENTS:**

During both the May and June 2008 site inspections, the inspectors identified small quantities of contamination within and outside of the restricted areas. These contamination areas included clothing, a calculator, on the outside of radioactive waste containers, within non-radioactive waste containers and flooring material. The inspectors also identified contamination on the skin of a licensee employee. The licensee made dose calculations and determined that the cumulative dose over the year was less than regulatory limits. The licensee took actions to address these contamination events. The NRC is requesting the licensee to respond to the above contamination incidents.

The NRC made side-by-side comparison radiation measurements between NRC and licensee radiation survey instruments; no abnormal issues were identified.

#### 4. **VIOLATIONS, NCVs, AND OTHER SAFETY ISSUES:**

Two violations of NRC requirements were identified during the inspection:

**The first violation** concerns the licensee's failure to properly dispose of licensed material. Specifically, the licensee had disposed of a brush contaminated with carbon-14 in a non-radioactive waste container outside of the restricted area. The licensee removed the contaminated brush and committed to retrain radiation workers regarding radiological surveys and the proper disposal of licensed material.

**The second violation** concerns the licensee's failure to use appropriate internal dose calculations to estimate the dose to occupational workers. Specifically, the inspectors identified that the dose calculations the licensee was using prior to the inspection were underestimating the internal dose assessment for occupational workers at the facility. To address this violation, the licensee had requested an NRC amendment to its license to address the deficiencies regarding the internal dosimetry program. The NRC materials licensing branch will issue the amendment to the license as soon as the licensee has provided all appropriate information.

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 requested that the licensee describe any efforts that they will take to address timeliness of dose assessments, contamination control methods to reduce the possibility of contamination being in unrestricted areas of their facility, and any efforts that they are taking to reinforce sound radiological practices to your radiation work force.

During the NRC's routine survey program, the inspector identified several items which were contaminated with carbon-14 but for which the licensee was unaware of the contamination. In one instance, a licensee technician was performing radiological surveys in the waste storage building and contaminated his hand with carbon-14. The contamination was from the top of a waste barrel which, according to the technician, was not suppose to be contaminated. The inspector identified three other barrels within the waste storage building with contamination on the lids which the technician, again, stated that the barrels should not have been contaminated. The inspectors also found low levels of carbon-14 contamination in unrestricted areas which included a calculator, clothing and flooring material. In addition to the responding to the violations, the NRC would also have the licensee respond to the contamination events identified during the inspection and how the licensee plans to prevent similar events from occurring in the future.

5. **PERSONNEL CONTACTED:**

(Identify licensee personnel contacted during the inspection, including those individuals contacted by telephone.)

#\*& G. Scott Ward - Senior Vice President, General Manager,  
Chemical Services

#\*& Sheila Hecht - Radiation Safety Officer  
Tracy Feters – Training Coordinator  
Dr. Amy Mize – Director; DMPK and Bioanalytical Services

Use the following identification symbols:

- # Individuals present at entrance meeting
- \* Individuals present at site exit meeting
- & Individuals present at telephonic exit meeting

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