



American Radiolabeled
Chemicals, Inc.

101 ARC Drive
Saint Louis, MO 63146 USA
Phone: 314-991-4545 or 800-331-6661
Fax: 314-991-4692 or 800-999-9925
Web: <http://www.arc-inc.com>
Email: arcinc@arc-inc.com

Monday, November 3, 2003

Nuclear Materials licensing Section
U.S. Nuclear Regulatory Commission, Region III
801 Warrenville Road
Lisle, IL 60532-4351

Gentlemen:

Reference: Docket No. 030-20567
License No. 24-21362-01

In response to your letter of 9 October, American Radiolabelled Chemicals, Inc (ARC) is pleased to present the following additional information. With the exception of Item Five, ARC feels that the information presented here is sufficient to resolve the questions posed in your letter. In order to expedite review, we are sending the completed items at this time. For the reasons listed under Item Five, ARC is requesting an additional 30 days to complete this item. That would make the due date 4 December 2003 for Item Five

Item 1. Radioactive Material

The Remodeling projects referred to in our 19 August letter are those types of projects performed as part of the normal course of business., such as (but not limited to): replacement of outmoded or worn out laboratory equipment or furniture: moving of interior non-load bearing partitions, relocation of doors or pass-thru windows.

Surveys will be performed to segregate non-reusable material into either rad waste or free released trash. As these objects are contaminated on surfaces only, decontamination will be limited to that necessary for free release of an item. Activities which are unusual for, and atypical of, our licensed program, e.g., cutting, grinding, scabbling, etc., and require the use of specialized safety equipment to prevent the spread of contamination are not envisioned as part of these projects.



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Existing procedures, which follow the guidance contained in FC 83-23, specifically Enclosure 2, titled "Guidelines for Decontamination of Facilities and *Equipment Prior to Release for Unrestricted Use* or Termination of Licenses for By-product, Source or Special Nuclear Material" (emphasis added).

The particular procedures are ARC Standard Operating Procedures (SOP):

- 01 Waste Compaction
- 08 Solid Waste
- 16 Wipe Surveys
- 19 Long Term Waste Storage
- 20 Glassware Decontamination
- 29 Storage of SCO
- 30 Equipment Release

A Certified Health Physicist directly supervises these activities. The surveys are taken and evaluated by individuals who are not those doing the decontamination.

No specialized equipment is needed for these operations.

2. Facilities and Equipment

Fume hoods and glove boxes that are used to process, handle, and store radioactive materials are only operated under negative pressure. The program that ensures that negative pressure is maintained was previously described in our letter dated 19 August 2003.

Non-operable fume hoods (an example of out-moded and/or worn out equipment) are treated as if they were open bench tops, and only work authorized for an open bench top is permitted.

3. Public Dose

ARC effluents are emitted on a 24-hour per day basis, seven days per week.

The air-sampling program for determining dose to a member of the public in Building 400 is based on continuous occupancy, a conservative assumption, as it is highly unlikely



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for an individual to be present in this building more than 50 hours per week, 50 weeks per year.

The intake/ make-up air for this building is sampled continuously, with sample change occurring every seven days. The sample methodology is identical to ARC effluent sampling, described in ARC SOP -03 " ^{14}C , ^3H and ^{35}S Air Monitoring Programs", with the following exceptions:

Counting time is 180 minutes, due to the low count rates,
Sample size is 3 ml vs. 1 ml, again due to low count rates,
An identical blank is counted under identical conditions,
A 24-hour delay before counting to ensure dissipation of static,
Counting system calibration, efficiency and background are run immediately prior to the count.

The counting equipment is maintained separate from the routine system.

Samples taken to date, and projected for a calendar year, indicate that a member of the public present continuously in Building 400 would receive between 4 and 6 millirem from ARC airborne effluents.

4. Contamination Survey Program

American Radiolabelled Chemicals, Inc. (ARC) uses the following nuclides in the quantities and operations noted. These amounts and operations are compared with the guidance in NUREG-1556, Vol 12, App P as listed.

Group 1	None	None
Group 2	Cl-36	300 millicuries max, in simple storage <1 millicurie, in very simple wet operations
	Ca-45	1 Ci max, in simple storage < 1 millicurie, in very simple wet operations.
	Co-60	100 millicuries max, in simple storage (prepackaged units)



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	I-125	500 millicuries max in simple storage. < 1 millicurie, in very simple wet operations
	I-131	100 millicuries, in simple storage < 1 millicurie, in very simple wet operations
Group 3	C-14	300 Ci max, in simple storage < 10 Ci, in very simple wet operations < 2 Ci, in normal chemical operations < 1 Ci in Complex operations
	P-32	1 Ci max, in simple storage < 100 millicurie, in very simple wet operations < 10 millicurie, in complex operations
	S-35	1 Ci max, in simple storage < 100 millicurie, in very simple wet operations < 10 millicurie, in complex operations
	Fe-55	100 millicuries max, in simple storage (prepackaged units)
	Fe-59	100 millicuries max, in simple storage (prepackaged units)
	Sr-85	100 millicuries max, in simple storage (prepackaged units)
Group 4	H-3	8,000 Curie max, in simple storage < 10 Ci, in very simple wet operations < 2 Ci, in normal chemical operations < 1 Ci in Complex operations Note: Up to 20 Ci of Tritium in gaseous form is handled entirely within a closed vacuum system.
	P-33	1 Ci max, in simple storage < 100 millicurie, in very simple wet operations < 10 millicurie, in complex operations

Use of the Tables (P2 through P4) of the above references document leads to the conclusion that a Medium survey frequency is required. ARC currently surveys restricted areas on a twice weekly basis, and intends to continue this frequency.

Buffer zones and areas outside of the restricted areas are surveyed daily. It is ARC's intent to continue this frequency.

5. Environmental Review

ARC is requesting additional time to prepare an Environmental Report as this is an unusual requirement for ARC. Such a report has not been required in the past as ARC meets all of the criteria for Categorical Exclusion from the necessity of preparing an environmental report, as the Commission has determined that renewals of this type have no environmental impact. This has been based on 10 CFR51.22(c)14.

6. Building 100 Flooding

Building #100 experienced water damage on two occasions, one in 1991 and one in 1992, due to freezing and subsequent thawing of the overhead fire suppression system, causing a flexible coupling to fail.

Both of these incidents occurred during normal working hours and lasted only a very short period of time, that time necessary to reach the system stop valve and shut off flow. The total amount of water reaching the floor of the building was slightly larger than that used in routine mopping and rinsing. The floor was mopped in each case and the water sampled in accordance with ARC SOP-07 "Liquid Waste Disposal Program" prior to discharge to the sanitary sewer system.

The pipe break did not affect any operation inside of a hood

The floor in the building was surveyed as below action level (50,000 dpm/100sq cm H-3 and 10,000 dpm/100 sq cm C-14) after the incidents

No individuals were contaminated as a result of either incident. No off normal indications were seen in any of the weekly bioassay results following the incidents.

No equipment was removed from service due to either incident.

Operations were halted for between one and three hours due to mopping and changing of absorbent paper on bench tops.



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The incidents occurred in February of 1991 and 1992. Neither incident was reportable within the criteria given in 10CFR20.2202, 10CFR20.2203, 10CFR30.50(a) or 10CFR30.50(b), or the equivalent regulations in force at the time.

This information has been constructed from the personal recollection of individuals present at the time, as no internal report was made for either occurrence.

For any additional information, please contact me directly.

Sincerely,

A handwritten signature in black ink, appearing to read 'Regis A. Greenwood'. The signature is fluid and cursive, with a large initial 'R' and a long, sweeping underline.

Regis A. Greenwood, CHP
Radiation Safety Officer
American Radiolabelled Chemicals, Inc.

Regis A. Greenwood, CHP
Radiation Safety Officer
314-991-4545
314-991-4692 (fax)

**American
Radiolabelled
Chemicals, Inc**

Fax

To:	Kevin Null, USNRC Region III	From:	Regis A. Greenwood, CHP
Fax:	630-515-1259	Pages:	2 including this page
Phone:	630-829-9854	Date:	11/18/2003
Re:	Withdrawal of Decommissioning Plan	CC:	

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Monday, November 17, 2003

Nuclear Materials licensing Section
U.S. Nuclear Regulatory Commission, Region III
801 Warrenville Road
Lisle, IL 60532-4351

Attn: Kevin Null

Gentlemen:

Reference: Docket No. 030-20567
License No. 24-21362-01

In response to your letter of 6 November, American Radiolabelled Chemicals, Inc (ARC) is pleased to present the following additional information.

Due to changing business plans, ARC wishes to withdraw the proposed Decommissioning plan for ARC Building 100 in its entirety. ARC does not intend to decommission and demolish this building at this time.

ARC reserves the right to re-submit an expanded decommissioning plan in the future if warranted.

For any additional information, please contact me directly.

Sincerely,

A handwritten signature in black ink, which appears to read "Regis A. Greenwood". The signature is fluid and cursive.

Regis A. Greenwood, CHP
Radiation Safety Officer
American Radiolabelled Chemicals, Inc.