



American Radiolabeled
Chemicals, Inc.

101 ARC Drive
Saint Louis, MO 63146 USA
Phone: 314-991-4545 or 800-331-6661
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FACSIMILE COVER SHEET

Date: 2/24/08
Name: Kevin Null
Company: USNRC Region III
Fax #: 630-829-9782
From: R. Greenwood

Total Number of Pages Including Cover Sheet: 4

Message:

KEVIN
stop this is enough
[Signature]



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Monday, 24 February 2009

Nuclear Materials Licensing Section
U.S. Nuclear Regulatory Commission, Region III
2443 Warrenville Road, Suite 210
Lisle, IL 60532-4352

Gentlemen:

Reference: License No. 24-21362-01

American Radiolabeled Chemicals, Inc (ARC) is submitting additional information in regard to our amendment request dated 29 September 2008. This information clarifies the measured dose to members of the public due to airborne effluent.

ARC has been measuring airborne concentrations of tritium and carbon 14 at the air intakes of Building since August of 2003.

ARC operates the effluent exhaust system twenty-four hours per day seven days per week. Work is performed on site seven days per week. Neither chemical reactions nor evaporation of volatiles cease at the end of normal working hours.

ARC is located in a commercial/industrial park. The closest residence is approximately one kilometer distant. The closest building is ARC's building 400. The **maximum** work time by any one in the building is 50 hours per week. The work time in other buildings closest to the ARC site is 40 hours per week.

Data for the period prior to 2007 has been previously transmitted to Region III. Attached you will find a summary of the data from 2007 and 2008.

The data for a 168 hour week is presented and the data corrected for a 50 hour exposure time is also presented.

It should be noted that this dose, based on air concentration measurements has varied between 2 mrem and 6 mrem in a year. This is in good agreement with the doses



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calculated (see Attachment E, pages 106,107 and 108) using the Gaussian dispersion equation.

For these reasons, ARC believes that sufficient data has been collected to demonstrate that dose to the public from our operation is well within the constraint of 10 mrem in a year.

If you have any questions, or need additional information, please contact Regis Greenwood, CHP directly.

A handwritten signature in black ink, appearing to read 'Surendra K. Gupta'.

Surendra K. Gupta, PhD
President
American Radiolabelled Chemicals, Inc

CC: Regis A Greenwood, CHP
Radiation Safety Committee File

Period	Average of 4 intakes, mrem	Correction for occupancy
12/26/06 - 1/8/07	0.6233	0.19
1/8 - 1/26/07	0.3300	0.10
1/26 - 2/9/07	0.7467	0.22
2/9 - 2/23/07	0.5933	0.18
2/23 - 3/10/07	1.1550	0.34
3/10 - 3/24/07	0.6950	0.21
3/24 - 4/8/07	0.3350	0.10
4/8 - 4/23/07	0.3550	0.11
4/23 - 5/7/07	1.0800	0.32
5/7 - 5/21/07	0.4400	0.13
5/21 - 6/4/07	0.7975	0.24
6/4 - 6/18/07	0.5025	0.15
6/18 - 7/1/07	0.6967	0.21
7/1 - 7/16/07	0.3167	0.09
7/16 - 7/31/07	0.4467	0.13
7/31 - 8/13/07	0.6233	0.19
8/13 - 8/27/07	0.8067	0.24
8/27 - 9/10/07	0.3533	0.11
9/10 - 9/28/07	0.5267	0.16
9/28 - 10/8/07	0.3300	0.10
10/8 - 10/26/07	0.3100	0.09
10/26/ -11/5/07	0.4067	0.12
11/5 - 11/19/07	0.9100	0.27
11/19 - 12/3/07	0.3300	0.10
12/3 - 12/17/07	0.5833	0.17
TOTALS 2007	14.2934	4.25
12/31/07 - 1/14/08	0.9633	0.29
1/14 - 2/18/08	0.3867	0.12
2/18 - 3/3/08	0.6867	0.20
3/3 - 3/18/08	0.2300	0.07
3/18 - 3/31	0.2333	0.07
3/31 - 4/21/08	0.3800	0.11
4/31 - 5/10/08	0.9967	0.30
5/10 - 5/28/08	0.4100	0.12
5/28 - 6/12/08	1.3500	0.40
6/12 - 6/26/08	0.3567	0.11
6/26 - 7/7/08	0.3933	0.12
7/7 - 7/29/08	0.6533	0.19
7/29 - 8/12/08	0.4233	0.13
8/12 - 8/26/08	1.3300	0.40
9/9 - 9/24/08 ***	0.4367	0.13
9/24 - 10/8/08	0.7300	0.22
10/30 - 11/13/08	0.6024	0.18
11/12 - 12/1/08	0.8350	0.25
12/1 - 12/15/08***	0.3025	0.09
12/15 - 12/29/09	0.3250	0.10
TOTAL FOR 2008	12.0249	3.58

*** New sample lines , wash bottles, needle valves and flow meters ordered 9/25 and installation complete 12/1