



<b>TELEPHONE CONVERSATION RECORD</b>	<b>Date:</b> December 9, 1999	<b>Time:</b> 11:00 am								
<b>Mail Control No.:</b> 127544	<b>License No.:</b> 37-30243-01	<b>Docket No.:</b> 030-33938								
<b>Person Called:</b> Stephen Ditch, General Manager	<b>Organization:</b> NSSI/Recovery Services, Inc. 5711 Etheridge St. Houston, TX 77087	<b>Telephone Number:</b> 713-641-0391								
<b>Person Calling:</b> Eric H. Reber / (610) 337-5276										
<b>Subject:</b> Receipt of licensed material from Nycomed Amersham										
<p><b>Summary:</b> Mr. Ditch confirmed that NSSI received shipments from Nycomed Amersham and specifically confirmed that they received the items documented on the following State of Texas manifests:</p> <table border="0" data-bbox="196 898 797 1045"> <thead> <tr> <th><u>Manifest No.</u></th> <th><u>Receipt Date</u></th> </tr> </thead> <tbody> <tr> <td>01804907</td> <td>10/26/99</td> </tr> <tr> <td>01804908</td> <td>10/27/99</td> </tr> <tr> <td>01804910</td> <td>10/29/99</td> </tr> </tbody> </table>			<u>Manifest No.</u>	<u>Receipt Date</u>	01804907	10/26/99	01804908	10/27/99	01804910	10/29/99
<u>Manifest No.</u>	<u>Receipt Date</u>									
01804907	10/26/99									
01804908	10/27/99									
01804910	10/29/99									
<b>Action Required/Taken:</b>										
<b>Signature:</b> 	<b>Date:</b> 1/24/00									

<b>TELEPHONE CONVERSATION RECORD</b>	<b>Date:</b> December 9, 1999	<b>Time:</b> 2:30 pm						
<b>Mail Control No.:</b> 127544	<b>License No.:</b> 37-30243-01	<b>Docket No.:</b> 030-33938						
<b>Person Called:</b> Dave Bennett, Sr. Manifest Specialist, ATG	<b>Organization:</b> ATG - Richland 2025 Battelle Blvd. Richland, WA 99352	<b>Telephone Number:</b> 509-375-5160						
<b>Person Calling:</b> Eric H. Reber / (610) 337-5276								
<b>Subject:</b> Receipt of licensed material from Nycomed Amersham								
<p><b>Summary:</b> Mr. Bennett confirmed that ATG received shipments from Nycomed Amersham and specifically confirmed that they received the items documented on the following Uniform Low-Level Radioactive Waste Manifests:</p> <table border="0"> <thead> <tr> <th><u>Manifest No.</u></th> <th><u>Receipt Date</u></th> </tr> </thead> <tbody> <tr> <td>102199</td> <td>11/8/99</td> </tr> <tr> <td>111299</td> <td>12/17/99</td> </tr> </tbody> </table>			<u>Manifest No.</u>	<u>Receipt Date</u>	102199	11/8/99	111299	12/17/99
<u>Manifest No.</u>	<u>Receipt Date</u>							
102199	11/8/99							
111299	12/17/99							
<b>Action Required/Taken:</b>								
<b>Signature:</b> 	<b>Date:</b> 1/29/00							

For: Chris Black

INTER

look on disk labelled  
"DECOMM"  
in decomm Subdirectory

OFFICE

MEMO

To: Christopher D.V. Black, Vinay Desai, Judy Johnson, Tom Keelty,

37-30243-01

From: Ann Aaron Byar, Environmental Safety and Health Manager

Subject: Survey Meters, Radioactive Standards and Sources at TARC

Date: updated October 30, 1999

Below is a list survey meters that have been distributed and of radioactive standards and sources located at TARC.

TARC Standard #

STD0101 <sup>137</sup>Cs check source (0.25 µCi) Date: July 1995. Serial No: 047- *disposed (#23603)*  
STD0136 <sup>129</sup>I check source (0.05 uCi) Date: July 1996 Serial No.: 377 -*disposed (#23603)*  
STD0164 <sup>137</sup>Cs calibration source for Atomlab 950 (10 uCi)- *retained until end of bioassays- on  
Atomlab in Lynn Kirby's Office*

Unquenched Standards (5 mL) Date: Aug. 11, 1995  
STD0108 <sup>3</sup>H (270900 dpm) *disposed (#23603)*  
STD0109 <sup>14</sup>C (122800 dpm) *disposed (#23603)*  
STD0110 Background Standard  
Serial No: (11) <sup>3</sup>H - (11) <sup>14</sup>C *disposed (#23603)*

<sup>14</sup>C Unquenched Standards: 4 vials.

STD0116 Vial #36LL 41,200 total Dpms *disposed (#23603)*  
STD0117 Vial #49 113,900 total Dpms *disposed (#23603)*  
STD0118 Vial #17 122,800 total Dpms *disposed (#23603)*  
STD0119 Vial #34 122,800 total Dpms *disposed (#23603)*

<sup>3</sup>H Unquenched Standards: 4 vials.

STD0120 Vial #36LL 86,200 total Dpms *disposed (#23603)*  
STD0121 Vial #49 267,800 total Dpms *disposed (#23603)*  
STD0122 Vial #17 270,900 total Dpms *disposed (#23603)*  
STD0123 Vial #34 270,900 total Dpms *disposed (#23603)*

127544

October 30, 1999

TARC Standard #

Test-ER Quench standards - 10 vials of  $^{14}\text{C}$  [134,800 Dpm in each vial]

STD0124	134,800 total Dpms	(8APR96) vial # 0- <i>transferred to Oslo 8/31/99</i>
STD0125	134,800 total Dpms	(8APR96) vial # 1- <i>transferred to Oslo 8/31/99</i>
STD0126	134,800 total Dpms	(8APR96) vial # 2- <i>transferred to Oslo 8/31/99</i>
STD0127	134,800 total Dpms	(8APR96) vial # 3- <i>transferred to Oslo 8/31/99</i>
STD0128	134,800 total Dpms	(8APR96) vial # 4- <i>transferred to Oslo 8/31/99</i>
STD0129	134,800 total Dpms	(8APR96) vial # 5- <i>transferred to Oslo 8/31/99</i>
STD0130	134,800 total Dpms	(8APR96) vial # 6- <i>transferred to Oslo 8/31/99</i>
STD0131	134,800 total Dpms	(8APR96) vial # 7- <i>transferred to Oslo 8/31/99</i>
STD0132	134,800 total Dpms	(8APR96) vial # 8- <i>transferred to Oslo 8/31/99</i>
STD0133	134,000 total Dpms	(8APR96) vial #9- <i>transferred to Oslo 8/31/99</i>

STD0134 Packard™ Spec-chek oxidizer  $^{14}\text{C}$  standard = 25 mL bottle of  $^{14}\text{C}$  with a stated activity of 49,900 Dpm/mL: dated 10/9/95- *all oxidized according authorized user- Chuck Kennedy*

STD0146  $^{137}\text{Cs}$  check source (0.25  $\mu\text{Ci}$ ) Date: January 1998. Serial No: 267 *disposed (#23603)*

Packard Quench standards - 10 vials of  $^{14}\text{C}$  [117,300 Dpm in each vial]

STD0147	117,300 total Dpms	(18AUG97) vial # 1- <i>transferred to Oslo 8/31/99</i>
STD0148	117,300 total Dpms	(18AUG97) vial # 2- <i>transferred to Oslo 8/31/99</i>
STD0149	117,300 total Dpms	(18AUG97) vial # 3- <i>transferred to Oslo 8/31/99</i>
STD0150	117,300 total Dpms	(18AUG97) vial # 4- <i>transferred to Oslo 8/31/99</i>
STD0151	117,300 total Dpms	(18AUG97) vial # 5- <i>transferred to Oslo 8/31/99</i>
STD0152	117,300 total Dpms	(18AUG97) vial # 6- <i>transferred to Oslo 8/31/99</i>
STD0153	117,300 total Dpms	(18AUG97) vial # 7- <i>transferred to Oslo 8/31/99</i>
STD0154	117,300 total Dpms	(18AUG97) vial # 8- <i>transferred to Oslo 8/31/99</i>
STD0155	117,300 total Dpms	(18AUG97) vial # 9- <i>transferred to Oslo 8/31/99</i>
STD0156	117,300 total Dpms	(18AUG97) vial # 10- <i>transferred to Oslo 8/31/99</i>

STD0135  $^{133}\text{Ba}$  internal standard inside Tricarb™ 2700TR  $\beta$ -counter  
18.8  $\mu\text{Ci}$  ( $\pm 17\%$ ): dated 10/1/95- *with counter*

STD0111  $^{133}\text{Ba}$  internal standard inside Tricarb 2700TR  $\beta$ -counter  
18.8  $\mu\text{Ci}$  ( $\pm 17\%$ ): dated 10/1/95- *with counter*

Unquenched Standards (15 mL) Date: Sept. 12, 1995

STD0102	$^3\text{H}$ (267800 dpm)- <i>in counter in 461</i>
STD0103	$^{14}\text{C}$ (113900 dpm)- <i>in counter in 461</i>
STD0104	Background Standard-with counter? Serial No: (48) $^3\text{H}$ - (48) $^{14}\text{C}$

**TARC Standard #**

Unquenched Standards (10 mL) Date: Aug. 11, 1995

STD0105  $^3\text{H} < 0.2 \mu\text{Ci}$  (86200 dpm) *disposed (#23603)*  
STD0106  $^{14}\text{C} < 0.1 \mu\text{Ci}$  (41200 dpm) *disposed (#23603)*  
STD0107 Background Standard Serial No: (35)  $^3\text{H}$ - (35)  $^{14}\text{C}$  *disposed (#23603)*

Unquenched Standards (5 mL) Date: Sept. 15, 1997

STD0144  $^3\text{H} < 0.2 \mu\text{Ci}$  (256400 dpm) *disposed (#23603)*  
STD0145  $^{14}\text{C} < 0.1 \mu\text{Ci}$  (123,600 dpm) *disposed (#23603)*  
Serial No: (52)  $^3\text{H}$  - (52)  $^{14}\text{C}$

Unquenched Standards (5 mL) Date: Feb. 16, 1998

STD0157  $^3\text{H} < 0.2 \mu\text{Ci}$  (260500 dpm) *disposed (#23603)*  
STD0158  $^{14}\text{C} < 0.1 \mu\text{Ci}$  (122900 dpm) *disposed (#23603)*  
STD0159 Background Standard  
Serial No: (30)  $^3\text{H}$  - (30)  $^{14}\text{C}$  *disposed (#23603)*

STD0160 137Cs S/N S8117028-02 11/25/98 104.5 uCi *disposed (#23603)*  
STD0161 137Cs S/N S8117027-03 6/29/98 108.7 uCi *disposed (#23603)*

Unquenched Standards (5 ml) Date: Dec. 2, 1998

STD0162 3H (243,000 dpm) *disposed (#23603)*  
STD0163 14C(107,900 dpm) *disposed (#23603)*

Unquenched Standards (15 ml) Date: Dec. 2, 1998

STD0165 3H (243,000 dpm) *disposed (#23603)*  
STD0166 14C(107,900 dpm) *disposed (#23603)*  
STD0167 3H (243,000 dpm) *disposed (#23603)*  
STD0168 14C(107,900 dpm) *disposed (#23603)*

125I validation test seed from U.K. 380 uCi 5/3/99- *disposed- container not recorded*

**SURVEY METERS**

TARC STD #	$\mu\text{Ci } ^{137}\text{Cs}$	Source# (date)	Meter Calibrate date	Model# (unit)	Serial# (unit)	Model # (probe)	Serial# (probe)
STD0113-transfer to Oslo 10/22	1	4136 (10/95)	1/28/99	Ludlum 3	125035	44-3 NaI	128263
STD0114	1	4161 (10/95)	16 Jan98	Ludlum 3	125209	44-3 NaI	128484
STD0115-transfer to Oslo 10/22	1	4137 (10/95)	-	Ludlum 3	125104	44-9 Pancake	128601-
STD0143-transfer to Oslo- 10/22	1	4145 (10/95)	23 Nov 98	Ludlum 3	125030	44-3 NaI	128466

The following survey meters are in use in TARC receiving Area

TARC STD #	$\mu\text{Ci } ^{137}\text{Cs}$	Source# (date)	TARC Room #	Meter Calibrate date	Model# (unit)	Serial# (unit)	Model # (probe)	Serial# (probe)
STD0136	1	4132 (10/95)	Loading Dock	14 Dec 98	Ludlum 3	125183	44-3 NaI	103169
STD0137	1	4124 (10/95)	Loading Dock	23 Nov 98	Ludlum 3	125208	44-9 Pancake	128600
	0	0	Loading Dock	1/29/99	Victoreen 450P	2682		

TARC STD #	$\mu\text{Ci } ^{137}\text{Cs}$	Source# (date)	Meter Calibrate date	Model# (unit)	Serial# (unit)	Model # (probe)	Serial# (probe)
STD0112	1	4133 (10/95)	23 Nov 98	Ludlum 3	123437	44-9 Pancake	128595

STD0172	0	3279 (12/96)	23 Nov 98	Ludlum 3	132955	44-3 NaI	135952
	0	0	15 Dec 98	Victoreen 450P	2910	-	
STD0169	1	3414 3414 (11/97)	28 Jan 99	Ludlum 3	146917	44-3 NaI	151150
STD0170	1	3423 (11/97)	12/14/98	Ludlum 3	146821	44-3 NaI	151142
STD0139	1	4158 (10/95)	15 Dec 98	Ludlum 3	125188	44-3 NaI	128267
STD0140- transferred to Oslo 10/22	1	4144 (10/95)	15 Dec 98	Ludlum 3	123435	44-9 Pancake	128599
STD0142	1	4135 (10/95)	15 Dec 98	Ludlum 3	124081	44-9 Pancake	128594
STD0138	1	4143 (10/95)	23 Dec 98	Ludlum 3	125820	44-9 Pancake	128590
STD0171	0	3278 (12/96)	23 Nov 98	Ludlum 3	133037	44-3 NaI	135950
STD0141	1	4142 (10/95)	23 Nov 98	Ludlum 3	123514	44-3 NaI	128470
STD0173	1	0349 ( )	24 May 99	Ludlum 3	157230	44-3 NaI	159443

**From:** Kim Gunnar Toft <NO\_STORO.IMAGO.KTT@gw2.wise.net>  
**To:** THKE <thke@americas.nycomed.com>  
**Date:** Tue, Feb 1, 2000 2:38 AM  
**Subject:** Re: US NRC question -Reply

Nycomed Amersham BRC, Oslo received a shipment with isotope labelled chemicals from Nycomed Amersham TARC, Wayne on September 1, 1999.

Please advice if you want a specified list of the chemicals and if so, which address to send it to.

Best regards,

Kim G. Toft

Dept. of Pharmacology

Radiation safety officer Nycomed Amersham BRC, Oslo

>>> Thomas Keetly 01/28/00 02:57pm >>>

The individual from the US NRC has tried to get this message to you twice, but keeps getting error messages. Wold you please advise him of your receipt of the materials from TARC. Thanks.

**CC:** "NO\_STORO.ALBU.PJK" <NO\_STORO.ALBU.PJK@gw2.wise.ne...

127544



2000-001

# Nycomed Amersham

**Nycomed Amersham Imaging**

466 Devon Park Drive  
P.O. Box 6630  
Wayne, PA 19087-8630  
610 225 4000

030-33938

L3

February 29, 2000

Mr. Eric Reeber  
Nuclear Materials Safety Branch 2  
Division of Nuclear Materials Safety  
United States Nuclear Regulatory Commission  
Region I  
475 Allendale Road  
King of Prussia, Pennsylvania 19406-1415

**RE: License Number 37-30243-01**

Dear Mr. Reeber:

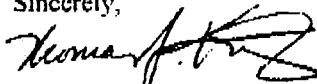
All radioactive materials have removed from the Torsten Almen Research Center (TARC) in Wayne, Pennsylvania. These radioactive materials have either been 1) disposed of as radiological waste and sent to licensed facilities, or 2) transferred to licensed facilities. Please reference the attached table that summarizes the movement of radioactive materials out of TARC during the closure of the site.

All records pertaining to radioactive materials have been transferred to the Princeton NJ office at 101 Carnegie Center, Princeton, NJ 08540-9998. The records will be under the supervision of Lisa Lowe, Director, Environmental Affairs.

I certify, under penalty of law, that this document and all attachments were prepared under my direct supervision in accordance with a system designed to assure that quality personnel properly gather and evaluate the information submitted. Based upon my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Please call me at (610) 630- 8224 if you have any questions regarding the information submitted.

Sincerely,



Thomas F. Keelty, CSP  
Associate Director  
Operations

cc: Lisa Lowe @ 101 Carnegie Center, Princeton, NJ

127544

**Attachment: TARC Radioactive Materials Transferred from / Disposed of  
During Site Closure in 1999**

Isotope	Form	Quantity (mCi)	Destination/ Date
<sup>14</sup> C Quench Standards (20 total)	Liquid	0.00111	Nycomed Amersham- Oslo, Norway (Kim Toft)/ 8-31-99
<sup>14</sup> C-labelled research material	Solid, liquid	13.22	Nycomed Amersham- Oslo, Norway (Kim Toft)/ 8-31-99
<sup>137</sup> Cs	Sealed check sources on meters (4 meters total)	0.004	Nycomed Amersham- Oslo, Norway (Kim Toft)/ 8-31-99
<sup>125</sup> I- labeled research material	Liquid	4.88	Nycomed Amersham Laboratories- Buckinghamshire, England (Toney Storey)/ 9-7-99
<sup>125</sup> I Waste	Liquid Organics	14.6	NSSI on 10/21/99
<sup>14</sup> C Waste	Liquid Organics	0.0338	NSSI on 10/21/99
U-nat. Waste	Liquid Organics	0.00133	NSSI on 10/21/99
<sup>153</sup> Gd Waste	Liquid Organics	0.0005	NSSI on 10/21/99
<sup>125</sup> I Waste	Dry Activated Waste	26.5	ATG on 10/21/99
<sup>14</sup> C Waste	Dry Activated Waste	0.196	ATG on 10/21/99
<sup>125</sup> I / <sup>153</sup> Gd Waste	Dry Activated Waste	0.418	ATG on 10/21/99
<sup>14</sup> C Waste	Liquid Scintillation Fluid	0.157	NSSI on 10/21/99
<sup>125</sup> I Waste	Waste including <sup>125</sup> I sealed Source -solid oxide ("seed")	1.0	ATG on 11/12/99 -Container ID 23205 on manifest
<sup>14</sup> C Waste	Liquid Scintillation Fluid (C-14 and H-3 sources are included. H-3 is not listed because it is deregulated)	16.0	NSSI on 11/12/99
U-nat Waste	Liquid Organics	0.01	NSSI on 11/12/99
<sup>153</sup> Gd/ <sup>125</sup> I Waste	Liquid Organics	5	NSSI on 11/12/99
<sup>125</sup> I Waste	Carcass/ biological (non-infectious)	0.825	ATG on 11/12/99
<sup>14</sup> C Waste	Carcass/ biological (non-infectious)	1.74	ATG on 11/12/99
<sup>14</sup> C/ <sup>125</sup> I Waste	Carcass/biological (non-infectious)	0.254	ATG on 11/12/99
<sup>129</sup> I / <sup>137</sup> Cs Waste	Sources	0.224	ATG on 11/12/99 All Cs-137 Sources and I- 129 Sources on 10/30/99 Sealed Source Inventory Container ID 23206 on manifest
<sup>137</sup> Cs	Sealed check sources on meters (12 meters total)	0.012	Nycomed Amersham- South Plainfield, NJ (Paula Jeter)/ 11-99