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3/26/2009

Director of Nuclear Material Safety and Safeguards
ATTN: GLTS, U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

Subject: Failed Leak Test of Adaptive Technologies Inc. Promethium 147 Source

On February 27, 2008 Oliver Products (GL -705084-12) received a report[1] back on our regularly scheduled wipe testing analyzed by Nuclear Scanning Services indicating a positive result for leakage on one of our 9 Millicurie Promethium 147 (ID #021023) beta sources. Immediately upon receiving this information I shutdown and isolated the hot melt adhesive coater[2] that the gauge was being used on. That day I took another wipe test and sent it in for confirmation of the test results.

On March 4th the results came back positive again. I removed the source from its mount and placed it in isolated storage and the contacted T.R. Wentworth II, from the Radiological Protection Section of the Michigan Department of Environmental Quality to aid me in determining if there was contamination from the source leak. He arrived on March 5th and aided us with determining the scope of our issue.[3] We noted during his visit that here is no external evidence of damage to the source. Oliver Products is confident that the contamination from and any exposure to the above source were minimal and limited to the packaging in which the source arrived from ATI.

Six sources of the same design where ordered in 2008 and put in storage for a period of six months while the process equipment was relocated. When removed from storage all six sources showed deterioration in their foil dust covers. They where immediately returned for service in January of 2009. ATI replaced the dust covers without comment and returned them at the beginning of February. The six sources where put in place on the coater and where in use for trial runs for less than 30 days before the wipe test was completed as scheduled.

ATI maintains that the only way to damage the source is by contact with the substrate as it moves through coater. Given that the gauge was designed and sold to Oliver Products for this purpose leaves us a bit unsettled.

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1. Enclosed.
2. The function of the gauge is to be one element of a six source system used to measure the weight of adhesive coating applied to Tyvek or other substrate.
3. Enclosed

FSME10
FSME12

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At this point Oliver Products is still in possession of the source waiting on a satisfactory explanation of the potential causes of the leak. Because of some contradictory information provided by ATI Oliver Products is not entirely comfortable with returning the source to the manufacturer without additional guidance from the NRC.

Sincerely:

Evert W. VanderBerg
EHS Manager
Oliver Products Company

cc: Toni Richardson
cc: Kathy Mullaney
cc: T.R. Wentworth (MDEQ)

Enc.

NSS
Nuclear Scanning Services
1-800-933-5199

SEALED SOURCE
LEAK TEST CERTIFICATE

Oliver Products Company	Attn: Mr. Gene Schwaiger
445 6th Street N.W.	phone: 616\318-1267
Grand Rapids, MI 49504	code: 697

SOURCE INFORMATION

Isotope **Promethium 147**
Source Serial Number **21023**
Activity **9 mCi**
Make & Model **47 Coater AT100**
Device Number **Beta Gauge #1**
Wiped by **Gene Schwaiger** Date of Wipe **02/27/2009**

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RESULTS

	Bkg CPM	Gross CPM	Efficiency	removable activity for this source is
Alpha	**0**	**0**	**0.62**	**< 0.0001 µCi**
Beta-Gamma	**30**	**33440**	**0.32**	**0.0475 µCi**

removable is > 0.005 µCi **FAIL**

The above source wipe has been assayed to determine source leakage. Regulations define a source as leaking when an appropriate wipe test has removed 0.005 uCi or more of activity.

Microcurie conversion is DPM / 2.2 X10^6

all sources are simultaneously checked for alpha and beta-gamma activity

March 3, 2009	**9062.001**	Greg Fox
Date of Assay	*NSS* assay No.	Assayed by

NSS 2437 Bay Area Blvd., #297 Houston, TX 77058 (Texas License L04339)

Form-D

STATE OF MICHIGAN
DEPARTMENT OF ENVIRONMENTAL QUALITY
LANSING

JENNIFER M. GRANHOLM
GOVERNOR

STEVEN E. CHESTER
DIRECTOR

March 18, 2009

Mr. Evert W. Vanderberg
Environmental, Health and Safety Manager
Oliver Products Company
445 Sixth Street, N.W.
Grand Rapids, Michigan 49504-5298

COPY

Dear Mr. Vanderberg:

On March 4, 2009, you contacted us seeking assistance to identify the extent of contamination from a gauge containing radioactive material that was known to have leaked. The gauge in question contained 9 millicuries of promethium-147. We offered our assistance and visited your facility on March 5, 2009.

We performed a survey of potentially affected items at the facility using an Eberline E-600 with pancake probe. The background rate on the probe was 50 counts per minute (cpm). We surveyed several items that may have come in contact with the leaking gauge. We surveyed several plastic caps (used to cover the source during maintenance), some standard hose clamps (used for holding the caps in place during maintenance), and some known thickness plastic sheet standards (used for calibrating the gauging system). On one of the plastic caps, we measured a maximum rate of 2,000 cpm near contact with our probe. This was the highest level of contamination detected. Several other parts were found to be contaminated at lower levels. All materials with detectable contamination were segregated into a plastic bucket.

We also wiped areas of the production line that may have had contact with the leaking source. No detectable levels of beta contamination were found on our wipes with the pancake probe.

As we discussed during our visit, the gauge is considered a generally licensed device and the U.S. Nuclear Regulatory Commission has regulatory jurisdiction in Michigan. This incident is required to be reported as described in 10 C.F.R. 31.5(c) (5).

Should you have any questions regarding this report or if we can be of further assistance in radiological protection matters, please contact us.

Sincerely,

T. R. Wentworth II

T.R. Wentworth II, Physicist
Radioactive Materials Unit
Radiological Protection Section
Waste and Hazardous Materials Division
517-241-1438

TRW:JK