Agilent Technologies
2850 Centerville Road
Wilmington, DE 19808

Nuclear Materials Licensing Branch
U.S. Nuclear Regulatory Commission, Region III
2443 Warrenville Road, Suite 210
Regional Administrator – James Caldwell
Lisle, IL 60532-4352

Subject: Letter submitted by Mead Johnson, Nutritionals with subject "Ni-63 Foil Source Detector Cells"

Dear Mr. Caldwell,

I wish to concur with the information provided in a letter dated November 1, 2007 (copy included) by Mr. Chad J. Burnett, CSP, RSO of Mead Johnson in reference to the missing ECDs posted in said letter. I have been in communication with Mead Johnson for some weeks and Mr. Burnett's letter covers all aspects of our joint effort in discovering the disposition of the cells. We too have performed an extensive search of records dating back to 1992 with no indication that the cells arrived at this site.

Please let me know if there is anything you wish further from Agilent Technologies, Inc. regarding this issue.

Kind regards,

David S. Bennett
Radiation Safety Officer

c.c. Chad Burnett, CSP
Mead Johnson

c.c NRC, Region I Office
King of Prussia, PA

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Mead Johnson® Nutritionals

2400 West Lloyd Expressway Evansville, IN 47721-0001
www.meadjohnson.com 812-429-5000

November 1, 2007

Nuclear Materials Licensing Branch
U.S. Nuclear Regulatory Commission, Region III
2443 Warrenville Road, Suite 210
Regional Administrator – James Caldwell
Lisle, IL 60532-4352

Certified Mail

Subject: Ni-63 Foil Source Detector Cells

Dear Mr. Caldwell:

During our review of Amendment No. 71 for NRC Material License 13-00772-02, we recently conducted an inventory of all of the materials listed on our license. During this inventory, we identified four Hewlett-Packard (now Agilent Technologies, Inc.) Nickel-63 (Ni-63) foil source detector cells listed on our license that could not be located on site. The detector cells were formerly used at our facilities in gas chromatographs employed in pesticide analysis. When we contacted Agilent Technologies, they stated that their records indicate Mead Johnson & Company is still in possession of the foil source detector cells. As of October 11, 2007 we have completed both a physical review and records review for the Ni-63 sealed sources and have been unable to determine their location.

Pursuant to 10 CFR § 20.2201 (Reports of theft or loss of licensed material), telephone notification was provided to John Knoke of the USNRC Operations Center at 10:25am on October 25, 2007. The Event Notification Number assigned during the reporting is EN43744. This letter provides the required written report and follows the format specified in the regulations.

(1) A description of the licensed material involved, including kind, quantity, chemical, and physical form:

There are four Ni-63 sealed sources that cannot be located:

- **Item 1** - One Hewlett-Packard Model 18803-60520, Serial No. C2141, Nickel-63 Foil Source Detector Cell;
- **Item 2**- One Hewlett-Packard Model 18803-60520, Serial No. C0844, Nickel-63 Foil Source Detector Cell;
- **Item 3** - One Hewlett-Packard Model 18713A, Serial No. H3047, Nickel-63 Foil Source Detector Cell; and

- **Item 4**- One Hewlett-Packard Model 19312, Serial Number S11091, Nickel-63 Foil Source Detector Cell.

Each of these sources has an activity of approximately 15 mCi.

(2) A description of the circumstances under which the loss or theft occurred:

The Ni-63 sources listed above (Items 1, 2, and 3) were older models that were replaced in 1992 by a Hewlett-Packard Model 19233-69576, Serial No. F2537 Nickel-63 detector.

Archived records indicate that the last semi-annual leak-tests for the old HP-18803-60520, Serial Nos. C2141 and C0844 (Items 1 and 2) were conducted in March 1992. Neither source was leaking. The next leak-test record, submitted by the same laboratory analyst who operated the instrument, and all subsequent leak tests, were for the replacement detector, HP-Model 19233-69576, Serial No. F2537. We had expected that the old, surplus Ni-63 detectors had been returned to Hewlett Packard, but Agilent states that their records indicate that it never received the detector cells.

Archived records also included semi-annual leak test results for the HP Model 18713A, Serial No. H3047 (Item 3) from August 1991 that indicated that the source was not leaking. No subsequent records have been located, and Agilent again indicated that it did not receive this detector cell.

Finally, the Hewlett-Packard Model 19312, Serial Number S11091, Nickel-63 Foil Source Detector Cell (Item 4) had been prepared for shipment, and a $250 purchase order prepared for Agilent Technologies to cover disposal cost. However, during the recent records review, we were unable to locate an acknowledgement of receipt for this detector from Agilent Technologies. Our available records indicate a shipment date of February 2, 2001, but we have not located the shipping papers and Agilent Technologies states that it has no record of receipt. Federal Express, the presumptive shipper, informed us that it had no records because it maintains records for only two years. The purchase order payment record showed $0 had been charged to the account which suggests that the unit may never have been received by Agilent.

(3) A statement of disposition or probable disposition of the licensed material involved:

We have not been able to identify any records which clearly document the disposition of the four missing sources. For Items 1, 2, and 3, our records only indicate that the equipment was replaced by 1992. After a physical review of laboratory and storage areas at the Mead Johnson Evansville and Mount Vernon campuses, and storage areas off-site, we are unable to locate the Ni-63 sources. Because we are informed the disposal site

utilized in the early 1990s screened materials for radiation prior to disposal, it seems unlikely that the missing sources were disposed at this site. During this time period other surplus laboratory equipment was regularly donated to academic, and other not for profit organizations, and such donation of the gas chromatographs may be the most likely explanation for the missing sources. However, we are unable to locate any records that allow us to determine with certainty that the missing sources were donated.

For Item 4, the unit appears likely to have been lost in transit between the shipping/receiving area and Agilent Technologies. Presumably, the source had been packaged for shipment, and disposed as undeliverable. The apparent misdirection of the unit was not identified until the recent review of the amended license.

(4) Radiation exposures to individuals, circumstances under which the exposures occurred, and the extent of possible hazard to persons in unrestricted areas:

Leak-test records for all units show no history of leaking. If the gas chromatographic equipment was donated, we expect it continued to be used and properly maintained. If the equipment or the sources were disposed, they most likely would have been placed in a landfill. In either circumstance, because the missing sources were sealed, no radiation exposures that pose an appreciable hazard are anticipated.

(5) Actions which have been taken, or will be taken, to recover the material:

We have carefully investigated and reviewed available documentation concerning the missing sources. We have also conducted a search of our facilities in an attempt to locate the Ni-63 sources. We are continuing to review our archived records to identify any additional information, and have alerted site personnel to notify the RSO if any of the sources are located.

(6) Procedures or measures which have been or will be adopted to prevent a recurrence of the loss or theft of licensed material:

We have recently completed a comprehensive inventory of all licensed materials in connection with the renewal of our license. With the exception of the four Ni-63 sources addressed in this notice, all licensed material is accounted for, and will be included in our quarterly inventories.

Since the 1990s, we have also established enhanced programs to identify and inventory radioactive materials. These procedures will assure that any future transfer of radioactive material will be identified and documented, and will fully comply with regulatory

requirements. We will also review our procedures to assure documented confirmation of shipment and receipt of all radioactive materials is required, and we will retain this documentation of disposition of all radioactive materials as a permanent part of our radiation safety file.

If you have any questions regarding this issue or our program, please contact me at (812) 429-7906.

Sincerely,

Chad J. Burnett, CSP
Radiation Safety Officer

cc: Mr. Loren J. Heuter
NRC, Region III

Mr. David S. Bennett, RSO
Agilent Technologies, Inc.

ORIGIN ID: ILGA
SHIPPING
AGILENT TECHNOLOGIES-2340
2860 CENTERVILLE RD

WILMINGTON, DE 19808
UNITED STATES US

ActWgt: 0.1 LB
System#: 0739391/CAFE2352
Account: S *********

TO NUCLEAR MTAERIAL LICENSING BRANCH
U.S. NUCLEAR REGULATORY COMM.
2443 WARRENVILLE RD.
SUITE 210 ATT: JAMES CALDWELL
LISLE, IL 605324352

FedEx Express

CLS#81877/22/23

Dept: Orange Card

Delivery Address Barcode

BILL SENDER

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