TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

October 29, 2008

U.S. Nuclear Regulatory Commission
Region III
ATTN: Colleen Carol Casey, Materials Licensing Branch
2443 Warrenville Road, Ste 210
Lisle, Illinois 60532-4352

Reference: Radioactive Materials License Number 24-24817-01
13715 Rider Trail North, Earth City, MO 63045
License Limits for Plutonium
Control Number 316883

Dear Commission:
This request is in relation to our NRC Materials License, Subitem No. 6F, concerning the authorization of our facility to possess "Plutonium". Our license was conceived 20+ years ago stating that we may possess "Plutonium," of any type, in the amount not to exceed 2 grams. The NRC has requested that TestAmerica specify the isotope of Plutonium that shall be authorized.

The current line item (6F) on our Materials License for Plutonium allows for any chemical and/or physical form of Plutonium not to exceed 2 grams. At your request, TestAmerica has reviewed our current needs and proposes the following activities for Plutonium isotopes to replace the current line item:

Byproduct, source, and/or special nuclear material	Chemical and/or physical form	Maximum amount that licensee may possess at any one time under this license
Pu-236	Any	100 microcuries
Pu-238	Any	100 microcuries
Pu-239	Any	100 microcuries
Pu-240	Any	100 microcuries
Pu-241	Any	5000 microcuries
Pu-242	Any	100 microcuries

Note that the amounts listed above, when converted to mass, are much smaller than the original 2 gram allowance under our current license. Thus, this request for a change to our license is not expected to adversely impact our Decommissioning Funding Plan. Also, as Pu-241 is a beta emitter (not an alpha emitter like the rest of the isotopes listed), the higher requested activity (than the other plutonium isotopes) is not expected to have a negative impact to the safety of employees or the public. For your reference, the table below shows the mass equivalents for each isotope assuming the maximum amount from

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the table above. As you see, the total of the mass is approximately 1/100 of the currently licensed amount:

Nuclide	Half-life	Specific Activity (Ci/g)	Amount Requested (uCi)	Mass (g)
Pu-236	2.86 years	530	100	1.89E-07
Pu-238	87.7 years	17	100	5.88E-06
Pu-239	24,110 years	0.06203	100	1.61E-03
Pu-240	6,563 years	0.2269	100	4.41E-04
Pu-241	14.4 years	103	5000	4.85E-05
Pu-242	373,300 years	0.003956	100	2.53E-02
			Total Mass:	2.74E-02

If you have any questions, please feel free to contact me at (314) 298-8566. Thank you for your help and guidance to implement the changes to the subject license.

Sincerely,

Michael J. Ridenhower

Michael J. Ridenhower
Radiation Safety Officer
TestAmerica Laboratories – St. Louis

From: Origin ID: ALNA (314)298-8566
Michael Ridenhower
Test America
13715 RIDER TRAIL NORTH

EARTH CITY, MO 63045

FedEx Express

CLS080108/21/24

Ship Date: 29OCT08
ActWgt: 1 LB
CAD: 3102719/INET8091
Account#: S *********

Delivery Address Bar Code

Ref #
Invoice #
PO #
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SHIP TO: 6308299841 **BILL SENDER**

Carol Colleen Casey
US NRC, Region III
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MATERIALS LICENSING BRANCH
LISLE, IL 605324352

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