



Date: February 25, 2014
Subj: Application for renewal of license # 13-03341-03
Ref: Record of conversation with Kevin Null dated 1/21/14
Attn: Kevin Null

The following are responses to the items you referenced in your email of 1/21/14:

Item 1 The following is a list of sources NMC uses to calibrate radiation detectors before they are shipped to users:

1. Manufacturer; The Source Inc. Source # 91CS4702313	Cesium-137	Original Activity Current Activity	0.215 μ Ci 0.127 μ Ci	05/12/91 02/27/14
2. Manufacturer; The Source Inc. Source # 95BA5002651	Barium-133	Original Activity Current Activity	0.480 μ Ci 0.138 μ Ci	04/01/95 02/27/14
3. Manufacturer; The Source Inc. Source # 95AM4703621	Americium-241	Original Activity Current Activity	0.032 μ Ci 0.031 μ Ci	08/02/95 02/27/14
4. Manufacturer; The Source Inc. Source # 91SR4702793	Strontium-90	Original Activity Current Activity	0.896 μ Ci 0.522 μ Ci	07/10/91 02/27/14
5. Manufacturer; The Source Inc. Source # 93CO4704147	Cobalt-60	Original Activity Current Activity	0.015 μ Ci 0.001 μ Ci	12/01/93 02/27/14

The above sources will probably be replaced sometime during this calendar year because of their decreased activity with the EAB series sources from Eckert & Zeigler.

Item 2 It is our preference to keep lead-210, item 6L, on our license since it is a convenient isotope to use in a proportional counter to run an alpha and beta plateau simultaneously. A replacement source would be purchased from a certified provider. This would be a very low activity source.

Item 3 The users of NMC's radiation monitors often require the use of an approximate 5.0 μ Ci Cesium-137 check source to verify that particulate and noble gas detectors are responding to radiation exposure. NMC's iodine detector uses an approximate 2.0 μ Ci barium-133 check source to verify its response to radiation exposure. In addition, NMC is requesting that Item 9A continue to



include Item 6A of the license and be modified to allow items 6C, (chlorine-36) and item 6G (barium-133) as calibration sources.

The check sources, Cesium-137 (5 μ Ci) and Barium-133 (2 μ Ci) would be provided by Eckert & Ziegler in a NMC manufactured brass part. It would be a 1.0 g/cc Epoxy Matrix, NIST source configuration.

The calibration sources, Cesium-137 (\approx 0.20 μ Ci), Chlorine-36 (\approx 0.5 μ Ci) and Barium-133 (\approx 2 μ Ci) also would be purchased from Eckert & Ziegler. These calibration sources would be of the EAB series sources and specification would be as follows:

50.8 mm OD x 45 mm AD
Deposited onto polymeric Membrane,
0.9 mg/cm² Aluminized Mylar Cover, NIST.
Exempted Quantities

Item 4 From Item 6 Items 6F Hydrogen-3, Item 6J Uranium-235, Item 6L Lead-210, Item 6M Thorium-230, Item 6N Uranium-238, Item 6O Plutonium-239, Item 6P Lead-210 and Item 6Q Lead-210 can be removed from the license.

The remaining items we would like to keep on the license in anticipation that there may be a need for those isotopes in the future for calibration of radiation detectors. Barium-133 is used weekly/monthly to verify correct operation of NaI Iodine detectors.

As you will recall NMC had Chase Environmental Group pick up sources that were scheduled for disposal last August. They are going to make a final pickup of all other remaining sources on their next milk run through Indiana either the week of March 24th or sometime in April, except for the ones noted above and for some check sources of Cesium-137. These remaining sources are in storage incident to disposal.

If you need any other information, please do not hesitate to call me.

Very truly yours,

A handwritten signature in black ink, appearing to read "Donald L. DeMoss".

Donald L. DeMoss

President

Cell Phone: 317-590-3824

Office: 317-546-2415

Email: demossd@aol.com

Sandrik, Lauren

From: Null, Kevin
Sent: Monday, March 03, 2014 10:40 AM
To: Sandrik, Lauren
Subject: FW: license renewal application
Attachments: Letter_of_Response_NRC_Kevin_Null.docx

thanks

From: demosd@aol.com [<mailto:demosd@aol.com>]
Sent: Friday, February 28, 2014 11:03 AM
To: Null, Kevin
Subject: Re: license renewal application

Kevin:

Attached is a PDF file of our response.

Please call if you have any questions.

Thanks for your patients.

Don DeMoss
Cell Phone: 317-590-3824
Office Phone: 317-546-2415

-----Original Message-----

From: Null, Kevin <Kevin.Null@nrc.gov>
To: [demosd <demosd@aol.com>](mailto:demosd@aol.com)
Sent: Wed, Jan 22, 2014 9:43 am
Subject: license renewal application

Hi Mr. DeMoss,

Attached is a summary of our phone conversation and the issues that I need you to address in order to have your license renewed.

Please review and let me know if you are in agreement.

Note that I would like a response no later than Thursday, January 28.

You can email me your response but make sure that your letter is signed and dated.

Call me at (630) 829-9854 if you have any questions.

Thanks,

Kevin Null
US NRC