



**ST. JOHN RIVER DISTRICT  
HOSPITAL**

4100 River Road  
East China MI 48054

April 13, 2010

United States Nuclear Regulatory Commission  
Region III, Materials Licensing  
2443 Warrenville Road, Suite 210  
Lisle, IL 60532-4352

**RE: Addition of Authorized User and Delete Gadolinium-153 Sources  
NRC License No. 21-26213-01  
St. John River District Hospital**

Dear Sir/Madam:

The purpose of this letter is to notify you of the addition of an authorized user to our current NRC Materials License.

1. Please add the following authorized user to our current NRC Materials License:  
**Edward Mauch, M.D. Group 35.100 and 35.200**

Dr. Mauch is currently listed as an authorized user on NRC Materials License #21-15638-01.

2. Please delete the Gadolinium-153 seal sources used in SMV Model PS 96 Transmission Attenuation Correction from our current NRC Material License. The sources have been transferred for disposal to Isotope Products Laboratories. A copy of the Return Packing List is enclosed for your review.

Thank you for your cooperation. If you have any questions or require additional information, please contact our medical physics consultant, Kevin B. Miller at 734-662-3197.

Sincerely,

Frank Poma  
President

**B****RETURN PACKING LIST****FROM:**

Company Name St. John River District Hospital  
 Address 4100 River Rd.  
 City East China Twp State MI  
 Zip 48054  
 Contact Name Randy Ingham  
 Phone Number (810) 329-5391

**SEND TO:**

**Isotope Products**  
Laboratories

An Eckert & Ziegler Company

1800 North Keystone Street  
Burbank, CA 91504

Tel 661-309-1010

Fax 661-257-8303

E-mail: nucmedsales@isotopeproducts.com

**RETURN #RA - R85191**

**STOP:** Fill in the return number to the left. This packing list must be affixed to the outside of the package. Each returned source to IPL must be on a one-to-one exchange basis only. For additional returns, please contact IPL customer service for additional cost considerations.

**Important: Please complete all requested information below.**

Nuclide	Activity	Reference Date	Serial Number	Capsule Description
1) <u>Gd153</u>	<u>300mCi</u>	<u>Dec 1999</u>	<u>NES 8424</u> <u>Lot # 55424011-63561</u>	<u>Transmission Line Source</u>
2) <u>Gd153</u>	<u>300mCi</u>	<u>Dec 1999</u>	<u>NES 8424</u> <u>Lot # 55424011-63561</u>	<u>Transmission Line Source</u>
3) _____	_____	_____	_____	_____
4) _____	_____	_____	_____	_____
5) _____	_____	_____	_____	_____

**FAX NUMBER:**

(810) 329-5302

NOTE: FAX number must be provided to ensure acknowledgement of return receipt.

This section for IPL internal use only

**Received at IPL By:**

Print Name ISIDORO LANDEROS

Date 17 MAR 04

All source(s) received at IPL per packing slip? Yes  No



# TECHNICAL DATA

## Gd-153 Transmission Line Source Performance Evaluation Sheet

**Model Number:** NES 8424

**Lot Number:** S8424011-G3562

**Radionuclide:** Gd-153

**Half-life:** 242 days

**Nominal Activity:** 300 mCi ( 11.1 GBq)

**Date:** DEC-1999

**Source Assay:** 295 mCi (10.9 GBq) on 8-DEC-1999

### SOURCE EMISSION UNIFORMITY

The gadolinium-153 line source emission of 100 keV photons was measured along its length in one centimeter segments. The uniformity was determined by taking the emission of the individual segment having the maximum deviation from the mean and dividing by the mean emission of all the segments. The uniformity of the source was determined to be  $\pm 5\%$  of the mean emission.

### PRINCIPAL PHOTON EMISSION <sup>(1)</sup>

ENERGY (keV)	X-Ray (K) 40.9	X-Ray (K) 41.5	X-Ray (K) 47	Gamma-7 97.4	Gamma-8 103.2
INTENSITY (%)	34.6	62.5	24.5	29.5	21.1

<sup>(1)</sup> A Handbook of Radioactivity Measurements Procedures, NCRP Report No. 58, Second Edition, (February 1985).

### LEAK TEST CERTIFICATION

The subject source was leak tested for contamination and radioactivity leakage utilizing a wipe test technique prescribed by ANSI Standard N542-1977. Leakage/contamination of less than  $5.0 \times 10^{-4}$  microcurie was detected.

Date of Wipe Test: 15-DEC-1999

By: Edward Rappa  
Edward Rappa

### Recommended Procedure:

This leak test procedure is recommended if the user does not already employ an approved procedure.

Wipe all external surfaces of the source or collimating holder with a piece of water moistened filter paper or other suitable "swab".

If the total activity smeared from the source is less than the previous smear test, and less than  $5 \times 10^{-4}$  microcurie, then the source is considered leak free. If the total activity measured is significantly more than the previous test value, then the source should be removed from service until the source leakage can be confirmed or other source of contamination found, (even though the detected quantity may be less than that specified on the user's license for reportable source leakage).

Record test results in a proper source log for future reference.



# TECHNICAL DATA

## Gd-153 Transmission Line Source Performance Evaluation Sheet

<b>Model Number:</b> NES 8424	<b>Lot Number:</b> S8424011-G3561
<b>Radionuclide:</b> Gd-153	<b>Half-life:</b> 242 days
<b>Nominal Activity:</b> 300 mCi ( 11.1 GBq)	<b>Date:</b> DEC-1999
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### PRINCIPAL PHOTON EMISSION <sup>(1)</sup>


ENERGY (keV)	X-Ray (K)	X-Ray (K)	X-Ray (K)	Gamma-7	Gamma-8
	40.9	41.5	47	97.4	103.2
INTENSITY (%)	34.6	62.5	24.5	29.5	21.1

<sup>(1)</sup> A Handbook of Radioactivity Measurements Procedures, NCRP Report No. 58, Second Edition, (February 1985).

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Date of Wipe Test: 15-DEC-1999

By:   
Edward Rappa

#### Recommended Procedure:

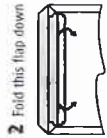
This leak test procedure is recommended if the user does not already employ an approved procedure.

Wipe all external surfaces of the source or collimating holder with a piece of water moistened filter paper or other suitable "swab".

If the total activity smeared from the source is less than the previous smear test, and less than  $5 \times 10^{-4}$  microcurie, then the source is considered leak free. If the total activity measured is significantly more than the previous test value, then the source should be removed from service until the source leakage can be confirmed or other source of contamination found, (even though the detected quantity may be less than that specified on the user's license for reportable source leakage).

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