

From: Edmond DeRosa [ederosa@neutronprod.com]
Sent: Tuesday, December 06, 2011 11:11 AM
To: Ullrich, Elizabeth
Cc: Bill Ransohoff
Subject: NPI procedure T-1, rev.1
Attachments: NPI letter and procedure T-1.pdf

19-25203-01
03038295

Hi Betsy,

Attached is our letter response and our procedure for the helium pressurization bubble test which we performed on cobalt-60 sources prior to distribution.

Please contact me if you have any questions.

Regards,

*Edmond DeRosa
Manager, Teletherapy Operations
Neutron Products, inc.
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NEUTRON PRODUCTS inc

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December 5, 2011

U.S. Nuclear Regulatory Commission, Region 1
475 Allendale Road
King of Prussia, PA 19406-1415
Attn: Ms. Betsy Ullrich, Senior Health Physicist
Commercial and R&D Branch
Division of Nuclear Materials Safety

Re: License No. 19-25203-01
Neutron Products Procedure T-1, Rev.1 Helium Pressurization Bubble Test

Dear Ms. Ullrich,

In accordance with your e-mail dated November 4, 2011, and our letter response dated November 15, 2011, attached is a copy of the referenced procedure. This procedure along with a visual inspection is how we determined that a cobalt-60 source was leak free prior to distribution.

Before Neutron Products ships a cobalt-60 source from SwRI or other authorized licensee, we will ensure that this procedure or equivalent along with a visual inspection is followed to verify that the sources are leak free prior to distribution.

Please do not hesitate to contact us if you have any questions, or require additional information.

Sincerely,
Neutron Products, Inc.



Edmond J. DeRosa
Manager, Teletherapy Operations

NEUTRON PRODUCTS, INC.

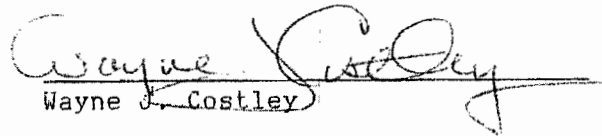
HELIUM PRESSURIZATION BUBBLE TEST

PROCEDURE T-1

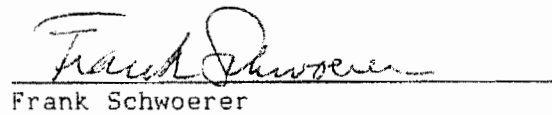
REVISION 1

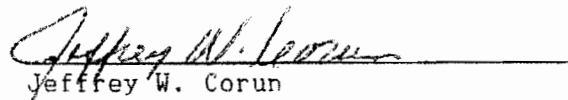
MAY 15, 1989

Reviewed for Regulatory Compliance
and Approved


Wayne J. Costley

Reviewed for Technical Adequacy
and Approved


Frank Schwoerer


Jeffrey W. Corun

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HELIUM PRESSURIZATION BUBBLE TEST

SPECIFICATION T-1

REVISION 1

SCOPE

This test is applicable to seal welded targets or sources, having internal free volume, to ensure them to be leak free.

1. REFERENCE

NBS Handbook 126, ANS N542-1977, "Sealed Radioactive Sources, Classification," Paragraph A 2.2.3

2. MATERIALS REQUIRED

- 2.1 Pressure chamber with a volume at least twice that of the target or source and at least five times the free volume inside the target or source, and capable of being pressurized to 150 psig
- 2.2 Helium gas bottle with pressure regulator
- 2.3 Trough or transparent vessel large enough to immerse the target or source
- 2.4 Transparent liquid, either demineralized water, isopropyl alcohol, or acetone

3. PROCEDURE

- 3.1 Place the target(s) or source(s) inside the pressure chamber.
- 3.2 Pressurize the chamber with helium gas to 150 psig and maintain it at that pressure for at least 15 minutes.
- 3.3 Release the pressure, remove the target(s) or source(s) from the chamber, and submerge them in the transparent liquid.
- 3.4 Observe for bubbles for a period of at least two minutes. If no bubbles are observed, the source is considered leak free.

NOTE: Side or rear lighting is helpful in observing very small bubbles from small leaks.

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