

Safety review
8/30-31/99 JPF

SUMMARY DATA

Name and Complete Mailing Address of the Applicant: Ann Warbird Cerone MDS Nordion 447 Marie Rd Kanata, Ontario, Canada		Name, Title, and Telephone Number of the Individual to Be Contacted If Additional Information or Clarification Is Needed by the NRC: Ann Warbird Cerone 613. 592-3400/2033	
The Applicant is (check one):		If the Applicant Is Not the Manufacturer, Provide the Name and Complete Mailing Address of the Manufacturer:	
<input type="checkbox"/>	Custom User		
<input type="checkbox"/>	Manufacturer		
<input type="checkbox"/>	Distributor		
<input checked="" type="checkbox"/>	Manufacturer and Distributor		
If the Applicant Is a Custom User, Provide the Name and Complete Mailing Address of the Distributor: NA		Provide the Name, Complete Mailing Address, and Function of Other Companies Involved:	
Model Number: TheraSphere		Principal Use Code (see Appendix F): <input checked="" type="checkbox"/>	
Name Used by the Industry to Identify the Product (e.g., Radiography Exposure Device, Teletherapy Source, Calibration Source, etc.): Y-90 glass microsphere		For Use by:	
		<input checked="" type="checkbox"/> Specific Licensees Only	
		<input type="checkbox"/> General Licensees Only	
		<input type="checkbox"/> Both Specific and General Licensees	
		<input type="checkbox"/> Persons Exempt from Licensing	
Leak-Test Frequency:		Principal Section of the 10 CFR that Applies to the User (e.g., General Licensees under 10 CFR 31.5): 10 CFR 35	
<input checked="" type="checkbox"/>	Periodic Leak-Testing is Not Required	Radionuclides and Maximum Activities (including loading tolerance): Y-90, 20 GBq	
<input type="checkbox"/>	6 Months		
<input type="checkbox"/>	Attached is justification for a leak test frequency of greater than 6 months		

CERTIFICATION:

THE APPLICANT UNDERSTANDS THAT ALL STATEMENTS AND REPRESENTATIONS MADE IN THIS APPLICATION ARE BINDING UPON THE APPLICANT.

THE APPLICANT AND ANY OFFICIAL EXECUTING THIS CERTIFICATION ON BEHALF OF THE APPLICANT, NAMED IN ITEM 2, CERTIFY THAT THIS APPLICATION IS PREPARED IN CONFORMITY WITH TITLE 10, CODE OF FEDERAL REGULATIONS, PARTS 30 AND 32 AND THAT ALL INFORMATION CONTAINED HEREIN IS TRUE AND CORRECT TO THE BEST OF THEIR KNOWLEDGE AND BELIEF.

WARNING: 18 U.S.C. SECTION 1001 ACT OF JUNE 25, 1948 62 STAT. 749 MAKES IT A CRIMINAL OFFENSE TO MAKE A WILLFULLY FALSE STATEMENT OR REPRESENTATION TO ANY DEPARTMENT OR AGENCY OF THE UNITED STATES AS TO ANY MATTER WITHIN ITS JURISDICTION.

Certifying Officer — Typed Name and Title

Signature:

Date:

CHECKLIST

Registration Certificate Holder: *MDS Nordion*

Model: *TheraSphere*

DESCRIPTION	OK/DEF	COMMENTS
DESCRIPTION/CONSTRUCTION		
If registration certificate holder is requesting to register more than one source/device on a certificate, are designs similar enough to do so?		<i>one only</i>
Device/source design with complete engineering drawings (dimensions, tolerances, list of materials)		<i>def. questions</i>
Assembly methods (screw, welds, etc.); verify integrity	✓	
Source mounting (size and integrity) and security	✓	
Is source ANSI classification sufficient (from ANSI N542-1977):		
Radiography - Unprotected 43515	<i>N/A</i>	
Radiography - In Device 43313		
Medical - Radiography 32312		
Medical - γ Teletherapy 53524		
γ Gauges - Unprotected 43333		
γ Gauges - In Device 43232		
β Gauges, Low Energy γ Gauges, or X-ray fluorescence 33222		
Oil Well Logging 56522		
Portable Moist/Density 43333		
Neutron Applications 43323		
γ Irradiators (II, III, IV) 43424		
γ Irradiators (I) 43323		
Static Eliminators 22222		
Smoke Detectors 32222		
Definition of shutter operation (locked in Off position, not locked in On position), Fail safe, spacing and tolerances	<i>NA</i>	
On-Off indicators (description, qty., location)	<i>NA</i>	
Safety interlocks, guards, etc. to prevent access to beam or high radiation levels	<i>NA</i>	
Corrosion between unlike materials (e.g., aluminum & steel, depleted uranium & steel, etc.)	<i>NA</i>	
Shielding efficiency and integrity		<i>def. questions</i>
For medical devices: Was a 510(k) provided? (provide written notification to FDA)		<i>still missing as of 8/31/99</i>
Well logging sources must be nondispersible and nonsoluble. (see Appendix B for a list of approved well logging sources as of November 1991)	<i>NA</i>	
See "ANSI and Other Standards" list for references for particular source/device designs (e.g. radiography, Brachytherapy, etc.)	✓	

APPENDIX C

CHECKLIST

Registration Certificate Holder:

Model:

DESCRIPTION	OK/DEF	COMMENTS
LABELING		
Copy of label	✓	
Materials, dimensions, colors (note on registration certificate if labeling is exempt from the color requirements of 10 CFR Part 20)		def. question
Permanent attachment and location(s) - visible to users?		def. question
Contents: Model#, Serial#, Isotope, Activity, Manufacturer, Date of Assay, Trefoil, "CAUTION - RADIOACTIVE MATERIAL" (Depleted Uranium information must be included)		def. question re. serial no.
CONDITIONS OF USE		
Expected working life of the source/device (years, operations)	✓	
Actions to be taken when product reaches end of its working life.	✓	
Maximum allowable temperature, vibration, shock, corrosion, etc. (during use, handling, storage, and transport)	✓	
How the device will be used	✓	
Meets dose limits of Part 32 for distribution general licensees or persons exempt from licensing	NA	
PROTOTYPE TESTING/HISTORICAL USE		
Tests methods and conditions (for source and device)	1	def. question
Tests results		def. question
Years of use (incidents, failures, etc.)	1	def. question
Similarities to other sources/devices if they are used as basis.		def. question
RADIATION PROFILES		
Survey instrument used (type, window thickness, sensitivity, etc.)	✓	
Conditions: including environments, scatter (product in beam), and use of guards and shields	NA	
Distance from source/surface (per ANSI 538-1979)		def. question
Shutter Open and Closed/Source Shielded	NA	
Verify radiation surveys for γ radiation meet inv^2 law.	NA	
Verify radiation surveys for non- γ radiation have not been calculated using inv^2 law.		def. question

CHECKLIST

Registration Certificate Holder:

Model:

DESCRIPTION	OK/DEF	COMMENTS
QUALITY ASSURANCE		
Materials, subassemblies, services	✓	
Assembly methods (screws, welding, etc.)	✓	
Dimensions and tolerances	✓	
Activity, radiation levels, leak tests	✓	
QA Manual and comparison of manual to Regulatory Guide 6.9	✓	
INSTALLATION		
Fixed, portable, movable, fixed installation but portable source housing	✓	
Inherent shielding, inaccessibility	✓	
Beam access: size of air gap/opening to beam and use of interlocks, locks, additional shielding or barriers	NA	
Mounting integrity	NA	
SAFETY INSTRUCTIONS		
Operation, maintenance, calibration, damage/failure, specific warnings, leak test, and radiation surveys	✓	
ACCOMPANYING DOCUMENTATION		
Leak tests results and radiation surveys	NA	
Transportation documents	✓	
Operation, maintenance, calibration, damage/failure, specific warnings, leak test, and radiation survey instructions if applicable	✓	
For Distribution to General Licensees: Verify NRC Regions and Agreement State listing is up-to-date and copies of all pertinent regulations	NA	

APPENDIX C

CHECKLIST

Registration Certificate Holder:

Model:

DESCRIPTION				OK/DEF	COMMENTS
SERVICING					
The following activities may be performed by the persons indicated:					
Activity	by a General Licensee	Only by a Specific Licensee	Will be Offered by the Applicant	} NA	
Installation					
Relocation					
Maintenance					
Repair					
Source Exchange					
Calibration					
Leak Testing					
Radiation Survey					
Training					
FOREIGN VENDORS					
Drop ship				} NA	
Who and where is source installed					
Leak test and radiation surveys					
QA in the U.S.					