The Boeing Company P.O. Box 516 St. Louis, MO 63166-0516 (314) 232-0232

107A-6697-MJD November 1, 2012

United Nuclear Regulatory Commission

Region III

Attn: Bryan Parker

2443 Warrensville Road, Suite 210

Lisle, IL 60532-4352

BOEING

Re: Mail Control Number: 579232, NRC License 24-02261-03

Dear Mr. Parker:

This letter serves as a follow-up to the letter I faxed Ms. Patty Pelke on October 8, 2012, and the telephone conversation between you and me on October 29, 2012. I am requesting amending license 24-02261-03 as follows:

- Delete item 6.A. The Hydrogen-3 source was shipped on 9/26/12 via Thomas Gray & Associates to Waste Control Specialists landfill in Texas for appropriate disposal.
- 2. Remove Rod Cadanau as the RSO and replace him with Mike Kohls. Per our discussion on October 29, you indicated that Mike Kohls needs a "refresher" radiation safety class to fully assume this role. He is enrolled in a "Radiation Safety Officer Training Class" sponsored by Nevada Technical Associates, scheduled for November 26-30, 2012, in Columbus, Ohio. Prior to Mike Kohls completing that class, I am requesting he function as "acting" RSO. After completion of the course, I understand he will automatically be granted "full" approval as RSO by the NRC.
- 3. Reword item 11.A. as follows:
  - a. 11. A. Licensed material listed in subitem 6.B. shall be used by or under the supervision of Mike Kohls, Doug Rensing, and Wayne Vetter. Licensed material listed in subitem 6.C. shall be stored by, or under the supervision of Mike Kohls and Eric Dennison. Licensed material listed in subitem 6.D. shall be used by or under the supervision of Mike Kohls, Chris Sherman, Roger Perry, Dan Bertel, and Steve Dothhager.
- 4. Reword 11.B. as follows:
  - a. 11.B. The Radiation Protection Officer for the activities authorized by this license is Mike Kohls.

Thank you for processing this amendment and please let me know if you need more information or have questions.

Sincerely,

Michael J. Dwyer

Director-Environment, Health, and Safety

Boeing-St. Louis 314-777-9238 (d)

314-705-4900 (c)

NRC FORM 540 U.S. NUCLEAR REGULATORY COMMISS		- NAME AND FACILITY		SHIPPER EPA I.D. NUMBER	7. NRC FORM 540 AND 540A	8. MANIFEST NUMBER				
EXPIRES 8/13/2/2/13		ing Company			NRC FORM 541 AND 541A	PAGE 1 OF 1 PAGES	<b>S</b> )	T4444		
UNIFORM LOW-LEVEL RADIOACTIVE		. McDonnell Blvd. (MC: S111-	2491)	COLLECTOR	NRC FORM 542 AND 542A					
WASTE MANIFEST	St. Louis	s, MO 63134		PROCESSOR	ADDITIONAL INFORMATION	l				
SHIPPING PAPER	USER PERM	IT NUMBER   SHIPMENT	NUMBER	X GENERATOR	9. CONSIGNEE - Name and Fac	olity Address		CONTACT: (		
EMERGENCY TELEPHONE NUMBER (Include Area Code)		•		TYPE (Specify)	Thomas Gray & Assoc	istes Inc. ELIC	CONTACT: Gran Welson			
M-F 8am-5orn (714) 997-8090 / After Hours (714) 745-5211		CONTACT		EXT	TELEPHONE NUMBER:	1205 W. Barkley Ave	TELEPHONE NUM	RFR.		
ORGANIZATION		Road Ca	danau			Grenge, CA 92868	714-007-800	201.067.		
Thomas Gray & Associates, Inc.			- Name and Address		EPA I.D. NUMBER	SIGNATURE - Authorized consign	DATE	- Net		
2. IS THIS AN "EXCLUSIVE USE" SHIPMENT? 3. TOTAL NUMBER	D OF BACKAGES	Thomas	Gray & Associates, Inc.		CAD 066 151 648	$1  \text{Pr} \rightarrow \text{r}$	9.26	-(C)		
l <del>y</del> n	B .	Barkley Ave			10. CERTIFICATION	This is to certify that the herein-na				
	45 MANIFEST				SHIPPING DATE					
	2		CA 92868	_		marked, and labeled and are in p				
>		CONTACT:			TELEPHONE NUMBER:	Transportation. This also certifie				
	NIFEST NUMBER	Rich Gal			714-997-8090	disposal as described in accorda	r equivalent state re	pulations.		
ACCOMPANY THIS SHIPMENT?		SIGNATORE	-Authorized certies acknowledging waste recei	pt	DATE	AUTHORIZED SIGNATURE		DATE		
If "Yes" provide Manifest Number NO					9.20.12	Value Lad	man	PS0		9/20/12
11. U.S. DEPARTMENT OF TRANSPORTATION DESCRIPTION (including proper shipping name, hazard class. UNIO number, and any additional information)	I TA. DOI DIDEL	13. TRANS		15.			18.	17. LEA/SCO	18. TOTAL WEIGHT	19. PACKAGE I.D.
	*RADIOACTIVE*	INDEX	PHYSICAL AND CHEMICAL FORM	<u> </u>	INDIVIDUAL RADIO	MUCLIDES	TOTAL PACKAGE ACTIVITY (8I)	CLASS N/A	(kg/lbs)	NUMBER
UN2910, Radioactive material, excepted package - limited	N/A	solid / DAW, check source	Am241, C	Se137		0.37126 MBq	60-000 T4444-001			
quantity of material, 7					***************************************	(0.01) mCi	50 1505			
UN2911, Radioactive material, excepted package - instruments,	N/A	solid / ECDs	H3			3200.5 MBq	N/A	22.7	T4444-D02	
							(86.5) mCI		50.0	
									1 .	
	<b></b>	ļ		<u> </u>					<b>↓</b>	
		1		1						
	<b>-</b>			<u> </u>				<b> </b>	ļ	
	1	1		l					1	
				├	***************************************		ļ	<del> </del>	<del> </del>	ļ
			- Carlotte	l						
	<del>-</del>			<del> </del>	***************************************			<del> </del>	<del> </del>	<b> </b>
	1	l		1						Ì
	<del>                                     </del>	<u> </u>	<del> </del>	<del> </del>	***************************************		<b></b>	<b></b>	<del> </del>	
	1									
——————————————————————————————————————	<b>———</b>		t	<del>                                     </del>	•		<del> </del>	<b> </b>	1	
	1								I	
		<b>†</b>		<b>—</b>				1	†	
	1			1					1	1
		<b>1</b>					· · · · · · · · · · · · · · · · · · ·		1	
				L				<u> </u>	l	
									1	
									<u> </u>	
				<u> </u>						
FOR CONSIGNEE USE ONLY					-					
	EMC"	<b>^</b>		WASTE	RECEIPT ACKNO	NLEDGEMENT PREFE	RENCE (please check	a box and add	I information if	necessary)
email:	10	/			FAV					
fax:	W				FAX					
mobile:					- EMAIL					
					L EMAIL					•

\* \* \* \* \* \*

NRC FORM 541											2. MANI	FEST NUMB	ER					
EXPIRES 8/13/2013 rev. 08.06				1. MANIFEST TOTALS								T4444						
				NUMBER OF PACKAGES		NET WASTE	SPECIAL NUCLEAR MATERIAL (grain			L (grams)	3. PAGE 1 OF 1 PAGE(S)							
UNIFORM LOW-LEVEL RADIOACTIVE WASTE MANIFEST			ACTIVE	DISPOSAL CONTAINERS	VOLUME (mVIII)	WEIGHT (kg/lbs)	U233	U235	₽u	TOTAL (g)	<u> </u>							
				2	0.0758	45.4	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4. SHIP	PER NAME						
l				2 2.88		100.0				1	l	The Boe	ing Compan	У				
				ACTIVITY (MBq/mCi)														
CONTAINER AND WASTE DESCRIPTION			ALL NUCLIDES		TRITIUM	C14	Tc-99	1128	SOURCE (kg)	SHIPPER ID NUMBER PERMIT NUMBER								
			3200.87126 MBq		3200.5	0	0	0	0,0E+00	l								
			86.51003 mCl 86.5															
5.	6.	7.	8.	9. SURFACE	10.			ICAL DESCR		14. CHEMICAL DESCRIPTION	,	\$	LOGICAL DESC				16.	
CONTAINER ID NUMBER /	CONTAINER		WASTE &	RADIATION LEVEL SURFACE CONTAMINA			11 12. APPROX. WASTE WASTE VOLUME		13. SORBENT,		WEIGHT %		AL RADIONUCLIDES AN				WASTE	
GENERATOR ID NUMBERG(S)	DESCRIPTION (SEE NOTE 1)			mR/hr X	<del></del>	/ 100 cm²	WASTE DESCRIPTOR	WASTE VOLUME(8)	SOLIDIFICATION, STABILIZATION	CHEMICAL FORM / CHELATING AGENT	CHELATING AGENT IF		(MBq) AND CONTAINER TOTAL; OR CONTAINER TOTAL ACTIVITY AND				CLASSIFICATION AS, AU, B, C	
	,,	(m²/tt²)	WEIGHT (kg/lbs)	uSwhr mSwhr X	ALPHA	BETA- GAMMA	(SEE NOTE 2)	(m²/ft²)	MEDIA (SEE NOTE 3)		> 0.1%	ISOTOPE	(MBq)	(mCl)	kg	***		
T4444-D01	4	0.0379	22.66	0.03 mR/hr	<1.67e-6	<1.67e-5	36, 40	0.0379	100	DAIAL check sources	NP	Am241	0.001258	0.000034	_ <del>\y</del>	gm	AU	
		1,34	50.0	0.0003 mswhi				1.34				Cs137	0.37	0.01				
												Total	0,371258	0.010034				
T4444-D02	4	0.0379	22.68	0.03 mR/hr	<1.67e-6	<1.67e-5	36	0.0379	100	ECDs	NP NP	Н3	3200.5	86,6	<del> </del>	_	AU	
		1.34	50.0	0.0003 mswhi	,,,,,	,,,,,,,		1.34			J						.,,	
		<u></u>	ļ		<del> </del>						<b></b>				<b> </b>	├	1	
		ļ	ļ	************				ļ			ļ				ļ	<del>                                     </del>		
									İ									
											1					1		
					ļ						<u> </u>	ļ					<u> </u>	
		·			<del> </del>				<b></b>	<u> </u>	╂	<del> </del>			<del> </del>	<del> </del>		
***************************************					<u> </u>		<b></b>	<b></b>			<del> </del>				<b></b>	<del> </del>		
								l										
												1						
					<b></b>		ļ	<b></b>			-					┼		
							1	I			1							
NOTE 1: Container Description				Descriptor Codes: (Cho				•		fication media that meet disposal site struct							-	
waste requiring disposat in approved structural overpacks  20. Charcoel the numerical code must be followed by "-OP".  21. Incinerator			30, Cation Ion-Exchange Media 39, Compactible Trash Ash 31, Anion Ion-Exchange Media 40, Noncompactible Trash					code must be followed by "-S". For all solidification madia, the vendor (manufacturer) and brand name must also be identified in item 13. Code 100 = NONE REQUIRED.										
1. Wooden Box or Crate 9. Demineralizer 22, Soil		32. Mixed Bed Ion-Exchange Media 41.			41. Animal Carcass Sorbtion			Solidification										
2. Metel Box 3. Plestic Drum or Pail	10. Gas Cylinds 11. Bulk, Unpac		23. Gas 24. Oil	33, Contaminated Equipment 42, Biological Material				60. Speedi Dri	66, Florco 73, Dicaperi HP500 90, Cement 67, Florco X 74, Petroset 91, Concrete (encapeu/ation)									
Plastic Drum or Pail     Metal Drum or Pail	11. Bulk, Unpac 12. Unpackages		24. Oil 25, Aqueous Lic	34. Organic Liquid (except oil) (except animal cercass) uid 35. Glassware or Labware 43. Activated Material			61. Celetom 62. Floor Dry/	67. Florco X 74. Petroset 91. Concrete (encapeulation) 68. Solid A Sorb 75. Petroset II 92. Bitumen			ibansagou)							
S. Metal Tank or Liner	13. High integrit		26, Filter Media		uid 35. Glassware of Lebware 43. Activated Material 36. Sealed source/device 59. Other. Describe in item 11			Superfine	58, Solid A Sorb /5, Petroset II 92, bitumen 69, Chemail 30 76, Aduaset 93, Vinyl Chloride									
6. Concrete Tank or Liner			27. Mechanical				ATT (1997) 12 7 7 9 10 1	63. H Dri 70. Chemail 50 77. Acuaset II 94. Vinyl Ether Styrene			rena							
7. Polyethylene Tank or Liner or additional page 28. EPA or Sta		28. EPA or State	Hazardous 38. Eveporator Bottoms/Sludge/					64. Safe T Sorb	89. Other.	89. Other, Describe in 99. Other, Describe in item 13,								
8. Fiberglass Yank or Liner 29. Demolitio			29. Demolition F	Rubble Concentrates					65. Safe N Dri	72. Dicaped HP200	item 13 or	additional page	or additional page					

NRC FORM 542 EXPIRES 8/13/2013	U.S. NUCLEAR REGUL	ATORY COMMISSION	1.		2. MANIFEST NUMBER T4444						
1	JNIFORM LOW-LEVEL RADIOAC		NAME	SHIPPER USE ONLY			1	14474			
	<b>WASTE MANIFEST</b>		Thomas Gray &			4					
MANIF	EST INDEX AND REGIONAL COMPACT TABL	IDENTIFICATION NUMB	ER	PERMIT NUMBER B400				3.			
List a	all original "PROCESSED WASTE" generators ( before "COLLECTED WASTE" generators	if any)	SHIPPING DATE 9/20/2012						PAGE	1	
4.	5.		7,	8.	9.	10.	11.	AS PROCESSED/COLLECTED TOTAL			
GENERATOR	GENERATOR NAME	GENERA'		PREPROCESSED	MANIFEST NUMBER(S) UNDER	WASTE CODE	CRIGINATING				
IDENTIFICATION	PERMIT NUMBER (IF APPLICABLE)	FACILITY		WASTE	WHICH WASTE (OR MATERIAL)	P = PROCESSED	COMPACT	A. SOURCE	B. SNM	C. ACTIVITY	D. VOLUME
NUMBER	NUMBER AND TELEPHONE NUMBER ADDRE		\$8	(OR MATERIAL	RECEIVED AND DATE	C = COLLECTED	REGION OR	MATERIAL			
	The Basin Comment	16200 IS McDannell	Dhia /NC: 0111.5	VOLUME (m²) 0.0758 m³	OF RECEIPT	<del>  c                                   </del>	STATE	(kg) 0.00E+00	0.00E+00	(MBq/mCl) 3200,871258	(m?) 0.0758
	The Boeing Company	pany 6200 J.S. McDonnell Blvd. (MC: S111- St. Louis, MO 63134 Rod Cadanau		0.0756 111	17444		1010	0.00E+00	0.002+00	3200.01 1230	0.0730
į.				1	9/20/2012					86,510034	2,68
	314,777,9229				0.00.00						
									[		
										•	
***************************************											
							İ				
								l			
		·····					1		<b></b>		
								l			
		<del> </del>				<b></b>	<b></b>		<b></b>		
		1									
		ļ				<b></b>	<b>↓</b>		ļ		
						1		ļ	l	ļ	
ľ											
						<u> </u>					
l											
									1	1	
ł											
		<u> </u>									
		<u> </u>					<u> </u>		ļ		
				TOTALS ON ALL I	PAGES (NRC FORMS 542	& 542A)					

•

**t** 

## **RSO Qualifications – Eric Dennison:**

B.S. Engineering Physics & Minor in Computer Science, Missouri State University 1989.

Completion of 40-hour Radiation Safety Officers Training and Health Physics at Harvard School of Public Health, 1991.

Radiation field work experience. Boeing X-Ray Radiation Safety Program lead/RSO. Includes industrial x-ray and open radiography, medical x-ray facility, RAM storage vault and calibrator surveys; contamination wipe tests, leak tests, and shipping surveys. Conduct radiation safety training.

- Semi-annual surveys of 3 industrial x-ray vaults, 1 medical x-ray facility, various low-level x-ray sources such as mail scanners, circuit board inspection system and scanning electronic microscopes. (Current activity and dating back to approx. 15 years.)
- Audit and assist with open radiography surveys, dosimetry and control measures.
   (Current activity and dating back to approx. 15 years.)
- Radioactive materials storage vault room and cesium-137 calibrator radiation surveys.
   (Current backup to our RSO dating back approx. 15 years so seldom performed, however, prior to that performed these routinely.)
- Contamination wipe tests in RAM vault room, leak tests of ECD and sealed pressure gauges, and CO-60 Gammacell irradiator. (15-20 years ago.)

Member of the Boeing St. Louis Radiation Safety Committee for approx. 20 years.

Assisted NRC RSO for approx. 15 years.

Radiation program audits in support of the Boeing St. Louis RSC. Include auditing Vault Room inventory/records, Cs-137 Calibrator facility, radiation instrument calibration records and RAM shipping.

Boeing Engineer. RAM Vault Room and Cesium-137 Calibrator custodian. Storage and surveys, both gamma and wipe tests, of radioactive materials. Operated the Cesium-137 Calibrator and calibrated radiation instruments. Operated CO-60 Gammacell irradiator. (20-22 years ago)