



November 30, 2010

Darren E. Strickland  
Bureau of Air Management  
CT Department of Environmental Protection  
79 Elm Street  
Hartford, CT 06106-5127

Dear Mr. Strickland:

On July 13, 2010, during an unrelated investigation at MJ Metals in Bridgeport, you had identified Sikorsky Aircraft parts that appeared to be radioactive (enc. 1). Per our conversation regarding this incident, we are providing the following results of our investigation.

The parts were immediately returned to the Sikorsky Aircraft Recycling Facility at Stratford, Connecticut. Sikorsky Environment, Health and Safety (EHS) staff surveyed the parts on July 13. A Ludlum Model 19 microR meter (cal. due 6/9/11) was used. Results were as follows:

1. SH 60 "Sump" - 10 uR/hr (Background meter reading was approximately 10 uR/hr.)
2. S65 Lower Housing Liner and Stud Assembly (originally referred to as a "Swash Plate") - Inner diameter surface 44-50 uR/hr, Outer diameter surface 26-30 uR/hr.

On July 14, Jay Dockendorff of RSA Associates visited our Stratford Recycling Facility, obtained similar survey results, and collected surface wipe samples. He ruled out surface contamination and suggested that a sample be submitted for subsequent analysis. In his report, he verified that the SH60 part was not radioactive (enc. 2). It was returned to the recycled magnesium part stream.

Analysis of the S65 part was conducted by RSA Laboratories. This analysis verified that it contained a very low percentage of thorium (enc. 3). A review of Sikorsky Engineering drawings indicated that this part was not designed to contain thorium. Based on the low percentage of thorium, we believe that the thorium was a contaminant in the casting. This part was made approximately 40 years ago. We were unable to determine if the thorium contamination originated from the original metal/casting supplier (Alcoa) or the part supplier (General Dynamics, Garland, TX).

The part (including the sample returned from RSA Laboratories) was shipped by Veolia Environmental Services to Alaron Corporation. We have included a copy of the returned Uniform Low Level Radioactive Waste Manifest (enc. 4).

We are unaware of thoriated magnesium alloys selected or used at this or other Sikorsky facilities.

HR rec'd 01/04/12

## Sikorsky Aircraft Corporation

6900 Main Street  
P.O. Box 9729  
Stratford, Connecticut 06615-9129  
(203) 386-4000



# Sikorsky

A United Technologies Company

These S65 parts are infrequently encountered. We have reviewed this incident with Sikorsky Shelton facility employees and management. We have written procedures to ensure that Shelton inspectors notify their site EHS staff when they receive S65 Lower Housing Liner/Stud Assemblies. We have trained EHS staff to conduct a radiation survey of parts on site, and prior to transfer of scrapped parts to our Stratford recycling facility. We have surveyed identical parts and similar parts of approximately the same age. These were found not to be contaminated with thorium.

Please contact me at 203-386-6979 or [smayo@sikorsky.com](mailto:smayo@sikorsky.com), if require any additional information regarding this incident.

Sincerely,

Stephen C. Mayo  
RSO, Industrial Hygiene Manager  
Sikorsky Aircraft Corporation

Enc.

**RSA Laboratories Inc.**  
**Data Reduction Sheet**  
**Sikorsky Aircraft Gamma Spec Data**

All Activities in pCi/g

Page 1 of 1

RSA ID #	28438.00			
CUST ID #	S65 Swash Plate			
Th-234	< 5.81			
Pa-234m	< 80.95			
Pa-234	# 1.82 +/- 1.08			
Ra-226	< 8.13			
Pb-214	5.63 +/- 2.60			
Bi-214	< 1.61			
Pb-210	< 6.89			
Ac-228	51.17 +/- 8.39			
Ra-224	50.65 +/- 9.23			
Pb-212	45.46 +/- 1.91			
Bi-212	# 96.60 +/- 44.51			
Tl-208	# 16.21 +/- 1.93			
U-235	< 0.45			
Th-227	5.62 +/- 3.28			
Ra-223	6.05 +/- 3.61			
K-40	29.24 +/- 10.38			

Activity Concentration (pCi/g)

Nat. Uranium 11.47 +/- 5.30

Nat. Thorium 102.34 +/- 12.79

Mass Concentration (mg/g)

Nat. Uranium 1.69E-02 +/- 7.84E-03

Nat. Thorium 4.64E-01 +/- 5.79E-02

% by weight

Nat. Uranium 0.0017% +/- 0.00078%

Nat. Thorium 0.0464% +/- 0.0058%

Uranium and Thorium are assumed to be in secular equilibrium

Activity of natural Uranium and natural thorium were calculated from the results of the highlighted isotopes

Natural Uranium = [Ra-226]/.491

Natural Uranium = [Ac-228]\*2

Specific Activity Natural Uranium = 1502.0 dpm/mg\*

Specific Activity Natural Thorium = 490 dpm/mg\*

\* The Dictionary of Health Science & Nuclear Terms, Rex J. Borders  
 1991, RSA Publications, 19 Pendleton Drive, Hebron, CT 06248



Jay R. Dockendorff  
 Laboratory Director



<b>GENERATOR</b>	<b>SHIPPING DOCUMENT</b>	1. Generator ID Number <b>CTD001449784</b>	2. Page 1 of <b>1</b>	3. Emergency Response Phone <b>(877) 818-0087</b>	4. Shipping Document Tracking Number <b>ZZ 00202190</b>
	5. Generator's Name and Mailing Address <b>SIKORSKY AIRCRAFT CORPORATION 6900 MAIN STREET MAIL STOP S101A STRATFORD, CT 06615-8129</b>			Generator's Site Address (if different than mailing address) <b>SAME</b>	
<b>TRANSPORTER</b>	6. Transporter 1 Company Name <b>VEOLIA ES TECHNICAL SOLUTIONS</b>			U.S. EPA ID Number <b>NJD080631369</b>	
	7. Transporter 2 Company Name <b>SJ TRANSPORTATION CO INC.</b>			U.S. EPA ID Number <b>NJD071629976</b>	
	8. Designated Facility Name and Site Address <b>ALARON CORPORATION 2138 STATE ROUTE 18</b>			U.S. EPA ID Number <b>PAD987400157</b>	
	Facility's Phone: <b>724 535-5777 WAMPUM, PA 16157</b>				
<b>DESIGNATED FACILITY</b>	9a. HM		10. Containers		11. Total Quantity
	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))		No.	Type	12. Unit WL/Vol.
	<b>X UN2910, RADIOACTIVE MATERIAL, EXCEPTED PACKAGE-LIMITED QUANTITY OF MATERIAL, 7</b>		<b>001</b>	<b>CF</b>	<b>00105</b>
			13. Codes		
			<b>NONE</b>		
14. Special Handling Instructions and Additional Information <b>1) S85 SWASH PLATE WITH TRACE U-NAT, TH-NAT -I- ER Service Contracted by WESTS</b>					
15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.					
<b>INT'L</b>	Generator's/Officer's Printed/Typed Name <b>KEVIN BRODERICK</b>				
	Signature <i>Ken Broderick</i>				Month Day Year <b>10/1/10</b>
	16. International Shipments <input type="checkbox"/> Import to U.S. <input type="checkbox"/> Export from U.S. Port of entry/exit: _____ Date leaving U.S.: _____				
	17. Transporter Acknowledgment of Receipt of Shipment				
<b>DESIGNATED FACILITY</b>	Transporter 1 Printed/Typed Name <b>ROGER A. FORTIN</b>				
	Signature <i>Roger A. Fortin</i>				Month Day Year <b>10/1/10</b>
	Transporter 2 Printed/Typed Name <b>CLAUDE E. GARY JR</b>				
	Signature <i>Claude E. Gary Jr</i>				Month Day Year <b>10/07/10</b>
18. Discrepancy					
18a. Discrepancy Indication Space <input type="checkbox"/> Quantity <input type="checkbox"/> Type <input type="checkbox"/> Residue <input type="checkbox"/> Partial Rejection <input type="checkbox"/> Full Rejection					
Shipping Document Tracking Number: _____ U.S. EPA ID Number: _____					
18b. Alternate Facility (or Generator)					
Facility's Phone: _____					
18c. Signature of Alternate Facility (or Generator) _____ Month Day Year _____					
19. Report Management Method Codes (i.e., codes for treatment, disposal, and recycling systems)					
1. _____		2. _____		3. _____	
4. _____					
20. Designated Facility Owner or Operator: Certification of receipt of shipment except as noted in Item 18a					
Printed/Typed Name <b>Jimmy Leese</b>					Month Day Year <b>10/11/10</b>
Signature <i>Jimmy Leese</i>					

DESIGNATED FACILITY TO GENERATOR

APPROVED BY OMD: NO. 3150 0164  
EXPIRES: 06/30/2007

Estimated burden per response to comply with this information collection request: 45 minutes. This uniform manifest is required by NRC to meet reporting requirements of Federal and State Agencies for the safe transportation and disposal of low-level waste. Send comments regarding burden estimate to the Records and FOIA/Privacy Services Branch (T-5 F52), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0061, or by internet e-mail to [infocollections@nrc.gov](mailto:infocollections@nrc.gov), and to the Desk Officer, Office of Information and Regulatory Affairs, NRC-10242, (3150-0164), Office of Management and Budget, Washington, DC 20503. If a means used to impose an information collection does not display a currently valid OMB control number, the NRC may not conduct or sponsor, and a person is not required to respond to, the information collection.

NRC FORM 540 (6-2004)			U.S. NUCLEAR REGULATORY COMMISSION UNIFORM LOW-LEVEL RADIOACTIVE WASTE MANIFEST SHIPPING PAPER			5. SHIPPER - NAME AND FACILITY Sikorsky Aircraft Corporation 6903 Main Street Stamford, CT 06615			SHIPPER ID NUMBER CTD001449784 <input type="checkbox"/> COLLECTOR <input type="checkbox"/> PROCESSOR			7. NRC FORM 540 AND 540A PAGE 1 OF 1 PAGE(S) NRC FORM 541 AND 541A 1 PAGE(S) NRC FORM 542 AND 542A None PAGE(S) ADDITIONAL INFORMATION None PAGE(S)			8. MANIFEST NUMBER (Use this number on all continuation pages) ZZC0202190											
1. EMERGENCY TELEPHONE NUMBER (877) 619-6067			2. IS THIS AN "EXCLUSIVE USE" SHIPMENT? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO			3. TOTAL NUMBER OF PACKAGES IDENTIFIED ON THIS MANIFEST 1			4. DOES EPA REGULATE WASTE REQUIRING A MANIFEST ACCOMPANY THIS SHIPMENT? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO If "Yes," provide Manifest Number: *****			EPA MANIFEST NUMBER			9. CONSIGNEE - Name and Facility Address ALARON CORPORATION 2138 State Route 18 WAMPUM, PA 16157			CONTACT Bill King TELEPHONE NUMBER (Include Area Code) 724-535-5777 DATE 10-11-10								
ORGANIZATION ER Service Contracted By VESTS			6. CARRIER - Name and Address Transporter #1 Vcolia ES Technical Solutions, L.L.C. 1 Eden Lane Flanders, NJ 07836 Contact: Dispatch #1: 973-347-7111 #2: 856-769-2741			SHIPMENT NUMBER N/A			EPA ID Number #1 NJD080631369 #2 NJD071629976 Ship Date: 10-1-10 Telephone			SIGNATURE - Authorized consignee acknowledging waste receipt <i>[Signature]</i>			10. CERTIFICATION This is to certify that the herein-named materials are properly classified, described, packaged, marked, and labeled and are in proper condition for transportation according to the applicable regulations of the Department of Transportation. This also certifies that the materials are classified, packaged, marked, and labeled and are in proper condition for transportation and disposal as described in accordance with the applicable requirements of 10 CFR Parts 20 and 61, or equivalent state regulations.											
11. U.S. DEPARTMENT OF TRANSPORTATION DESCRIPTION (Including proper shipping name, hazard class, UN ID number, and any additional information)			12. DOT LABEL "RADIOACTIVE"			13. TRANSPORT INDEX			14. PHYSICAL AND CHEMICAL FORM			15. INDIVIDUAL RADIONUCLIDES			16. TOTAL PACKAGE ACTIVITY (MBq)			17. LSA/SCO CLASS			18. TOTAL WEIGHT OR VOLUME (Use appropriate units)			19. IDENTIFICATION NUMBER OF PACKAGE		
UN2910, Radioactive material, excepted package-limited quantity of material, 7			NA			NA			Solid Inorganic			Th-nat U-nat			1.8204E-01			NA			105 LBS; 2 FT3			EP125627000 0-001-01-0		
FOR CONSIGNEE USE ONLY			RECEIVED			OCT 11 2010			ALARON CORPORATION																	

NRC FORM 540 (6-2004)

10-0452

