

(10-2017)  
MANDATORY DATA COLLECTION  
AUTHORIZED BY 10 CFR 30,  
40, 50, 70, 72, 74, 75, 150,  
Public Laws 83-703,  
93-438, 95-91



U.S. DEPARTMENT OF ENERGY  
AND  
U.S. NUCLEAR REGULATORY COMMISSION

PHYSICAL INVENTORY LISTING

Estimated burden per response to comply with this mandatory collection request: 2 hours for small licensees and 6 hours for large licensees. This information is required by NRC to fulfill its safeguards responsibilities, bilateral agreements, and responsibilities as a participant in the USIA/IEA Safeguards Agreement. Send comments regarding burden estimate to the Information Services Branch (T-F43), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by e-mail to [Infocollects.Resources@nrc.gov](mailto:Infocollects.Resources@nrc.gov), and to the Desk Officer, Office of Information and Regulatory Affairs, NEOB-10202, (3150-0058), 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.

**EXPIRES: 10/31/2020**

1. NAME AND ADDRESS David C. Daugherty Hope College				2. REPORTING IDENTIFICATION SYMBOL (RIS) ZJF
STREET ADDRESS 27 Graves Place , Physics Dept, VanderWerf Hall				
CITY Holland	STATE MI	ZIP CODE 49422	3. INVENTORY DATE 12/31/2017	4. LICENSE NUMBER(S) 21-13583-01

## 5. BATCH DATA

[illegible]

## 6. TOTALS

7. SIGNATURE

8, TITLE
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**Radiation Safety Officer**

9. DATE	
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1/2/18

WARNING: FALSE STATEMENTS IN THIS CERTIFICATE MAY BE SUBJECT TO CIVIL AND/OR CRIMINAL PENALTIES. NRC REGULATIONS REQUIRE THAT SUBMISSIONS TO THE NRC BE COMPLETE AND ACCURATE IN ALL MATERIAL RESPECTS. 18 U.S.C. SECTION 1001 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.



## MATERIAL BALANCE REPORT

Estimated burden per response to comply with this mandatory collection request: 2 hours for small licensees and 5 hours for large licensees. Reported lessons learned are incorporated into the licensing process and fed back to industry. Send comments regarding burden estimate to the Information Services Branch (T-2 F43), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by e-mail to [Infocollects.Resource@nrc.gov](mailto:Infocollects.Resource@nrc.gov), and to the Desk Officer, Office of Information and Regulatory Affairs, NEOB-10202, (3150-0004), 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.

1. NAME AND ADDRESS David C. Daugherty RSO Hope College 27 Graves Place Physics Dept. VanderWerf Hall Holland MI 49422		2. LICENSE NUMBER(S) 21-13583-01	3. REPORTING IDENTIFICATION SYMBOL (RIS) ZJF
		4. REPORT PERIOD (MM/DD/YYYY) FROM 01/01/2017 TO 12/31/2017	5. MATERIAL TYPE (Submit separate report for each type) Sealed Source MRC-PuBe291

## SECTION A

## MATERIAL ACCOUNTABILITY

PC	SEQ		A. ELEMENT WEIGHT	B. ISOTOPE WEIGHT
A	1	8. BEGINNING INVENTORY – U.S. GOVT-OWNED		
		9. BEGINNING INVENTORY – NOT U.S. GOVT-OWNED	32g	29g
<b>RECEIPTS</b>				
		11. PROCUREMENT FROM DOE RIS		
		FROM:		
		13. PROCUREMENT – FOR THE ACCOUNT OF DOE		
		14. DOD RETURNS – USE A		
		15. DOD RETURNS – USE B		
		16. DOD RETURNS – OTHER USES		
		21. PRODUCTION		
		22. FROM OTHER MATERIALS a. ICT		
		b. ICT		
		c. ICT		
		30. RECEIPTS REPORTED TO DOE/NRC ON DOE/NRC 741 (not listed elsewhere)		
		FROM: RIS		
		34. RECEIPTS – MISC		
		37. PROCUREMENT BY OTHERS		
		38. DONATED MATERIAL – FROM U.S. GOVT TO OTHERS		
		39. DONATED MATERIAL – FROM OTHERS TO U.S. GOVT		
A	2	40. TOTAL (Lines 8-39)	32g	29g
<b>REMOVALS</b>				
		41. EXPENDED IN SPACE PROGRAMS		
		42. SALES TO U.S. GOVT RIS TO: RIS		
		TO:		
		43. SALES TO OTHERS FOR THE ACCOUNT OF U.S. GOVT RIS		
		TO:		
		44. DOD – USE A		
		45. DOD – USE B		
		46. DOD – OTHER USES		
		47. EXPENDED IN U.S. GOVT TESTS		
		48. ROUTINE TESTS		
		49. SHIPPER – RECEIVER DIFFERENCE		
		51. SHIPMENTS REPORTED TO NRC/DOE ON NRC/DOE 741 (not listed elsewhere)		
		TO: RIS		

**SECTION A (Continued)**

PC	SEQ		A. ELEMENT WEIGHT	B. ISOTOPE WEIGHT
		54. SHIPMENTS – MISC		
		58. DONATED MATERIAL – TO U.S. GOVT BY OTHERS		
		59. DONATED MATERIAL – TO OTHERS BY U.S. GOVT		
		65. ROUNDING ADJUSTMENT		
		71. DEGRADATION TO OTHER MATERIALS      a. ICT		
		b. ICT		
		72. DECAY		
		73. FISSION AND TRANSMUTATION		
		74. NORMAL OPERATIONAL LOSSES/MEASURED DISCARDS		
		75. ACCIDENTAL LOSSES		
		76. APPROVED WRITE-OFFS		
		77. INVENTORY DIFFERENCE		
		80. ENDING INVENTORY – U.S. GOVT OWNED		
A	3	81. ENDING INVENTORY – NOT U.S. GOVT OWNED	32g	29g
A	4	<b>82. TOTAL (Lines 41-81)</b>	32g	29g
		83. BIAS ADJUSTMENT		

## FOREIGN OBLIGATIONS

PC	SEQ	1. COUNTRY OF OBLIGATION	2. ELEMENT WEIGHT	3. ISOTOPE WEIGHT
4. TOTAL WEIGHT				

## CERTIFICATION

To the best of my knowledge and belief, the information given above and in any attached schedules is true, complete, and correct.

SIGNATURE (See instructions for provisions on confidentiality)

David E. DeBevoise, RSO

TITLE
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**Radiation Safety Officer**

DATE \_\_\_\_\_

1/2/18

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UNCLASSIFIED

NMMSS D-3

NRC DIRECTORY OF REPORTING IDENTIFICATION SYMBOLS

Last Update

FACILITY: HOPE COLLEGE  
DEPARTMENT OF PHYSICS

RIS: ZJF

CONTACTS

BUSINESS: DAVID C DAUGHERTY

TECHNICAL: No Contact

TECHNICAL: No Contact

TELEPHONE: 616-395-7519

TELEPHONE:

TELEPHONE:

ADDRESS(ES)

IN THE EVENT THAT MULTIPLE ADDRESSES ARE PRINTED FOR ONE TYPE OF USAGE (I.E. MAILING/BUSINESS), CONTACT A REPRESENTATIVE AT THE RIS TO DETERMINE WHICH ADDRESS SHOULD BE USED IN THE INSTANCE IN QUESTION.

MAILING/BUSINESS ADDRESS

HOPE COLLEGE  
DEPARTMENT OF PHYSICS  
ATTN: DAVID C DAUGHERTY  
27 GRAVES PLACE  
HOLLAND, MI 49423-9000

MAILING/BUSINESS ADDRESS

HOPE COLLEGE  
DEPARTMENT OF PHYSICS

NO Address

NO CHANGE

11/2/18

David C Daugherty RSO

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