



Stine-Haskell Research Center 310/115
1090 Elkton Road
Newark, DE 19711
Phone: (302) 451-4689

Facilities Services & Real Estate

U.S Nuclear Regulatory Commission
USNRC – Region I
2100 Renaissance Blvd, Suite 100
King of Prussia, PA 19406-2713

August 11, 2016

REC RG1 08 23 16 AM 07:22

Docket No. 03020681
Control No. 590772
License No. 07-134410-02

07-13441-02
J6

Subject: Certification of Financial Assurance – US NRC Radioactive Material License Number 07-13441-02

Dear Mr. Lawyer,

Please find attached a signed copy of the Certification of Financial Assurance with seal for your records. Modifications to this agreement reflect the proper Experimental Station street address as “200 Powder Mill Road, Wilmington, DE 19803”, Financial Assurances Demonstrated by this Agreement at \$1,236,150.00, and Exhibit A: Materials to be possessed and sealed source isotopes. A copy of the Surety Rider is also included for your convenience.

Please contact Ms. Kelly L. Petrillo, DuPont Radiation Safety Officer at (302) 451-4689, facsimile (302) 451-4545, or by email at Kelly.L.Petrillo@dupont.com should you have any further questions.

Sincerely,

Kelly L. Petrillo
DuPont Wilmington Area Radiation Safety Officer
Stine-Haskell Research Center S310/115
1090 Elkton Road
Newark, DE 19711

590772

NMSS/RGN1 MATERIALS-002



The miracles of science™

Calissa Brown
Corporate Counsel & Assistant Secretary
974 Centre Road
Chestnut Run Plaza #5355
Wilmington, DE 19805

CERTIFICATION OF FINANCIAL ASSURANCE

Principal: E.I. du Pont de Nemours and Company
974 Centre Road
Wilmington, Delaware 19805

NRC license number: 07-13441-02

Stine-Haskell Research Center, 1090 Elkton Road, Newark, Delaware 19711

Experimental Station, 200 Powder Mill Road, Wilmington, Delaware 19803

Glasgow Plant, 2309 Sunset Lake Road, Newark, Delaware 19702

Chestnut Run Plaza, 4417 Lancaster Pike, Wilmington, Delaware 19805

Issued to: U.S. Nuclear Regulatory Commission

I certify that E.I. du Pont de Nemours and Company is licensed to possess the following types of sealed sources or plated foils with a half-life greater than 120 days licensed under 10 CFR Part 30 and unsealed byproduct material with a half-life greater than 120 days licensed under 10 CFR Part 30 in the following amounts: See Exhibit A.

I also certify that financial assurance in the amount of \$1,236,150.00 has been obtained for the purpose of decommissioning as prescribed by 10 CFR Part 30.

Signature: Calissa Brown

Name: Calissa Brown

Title: Corporate Counsel & Assistant Secretary

[corporate seal]

Date: July 11, 2016

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EXHIBIT A

Material to be possessed

Item	Radioisotope	Mfg/model No.	Quantity	Purpose of Use
A	Any byproduct material with atomic numbers 1 through 83	Any	10 millicuries per radionuclide and 200 millicuries total	Research and development as defined in 10 CFR 30.4; animal studies
B	Hydrogen 3	Any	20 curies	Research and development as defined in 10 CFR 30.4; animal studies
C	Carbon 14	Any	20 curies	Research and development as defined in 10 CFR 30.4; animal studies
D	Phosphorous 32	Any	1 curie	Research and development as defined in 10 CFR 30.4; animal studies
E	Phosphorous 33	Any	1 curie	Research and development as defined in 10 CFR 30.4; animal studies
F	Sulfur 35	Any	5 curies	Research and development as defined in 10 CFR 30.4; animal studies
G	Krypton 85	Any	50 millicuries	Research and development as defined in 10 CFR 30.4; animal studies
H	Iodine 125	Any	1 curie	Research and development as defined in 10 CFR 30.4; animal studies
I	Iodine 131	Any	1 curie	Research and development as defined in 10 CFR 30.4; animal studies

Sealed Source Radioisotopes

Item	Radioisotope	Mfg/model No.	Quantity	Purpose of Use
J	Nickel 63	Plated foils (Agilent Technology (formerly Hewlett-Packard) Models G2397A, G1533A, G1223A, 19233, 19303, and 18713A, or Thermo Scientific (formerly Fisons/ Carlo Erba) Models ECD40)	One curie total and no single source to exceed the maximum activity specified in the certificate of registration issued by the U.S. Nuclear regulatory Commission or and Agreement State	To be used for sample analysis in gas chromatography devices that have been registered either with the U.S. Nuclear Regulatory Commission under 10 CFR 32.210 or with an Agreement State and have been distributed in accordance with a Commission or Agreement State specific license authorizing distribution to persons specifically authorized by a Commission or Agreement State license to receive, process, and use the devices.
K	Krypton 85	Sealed Sources (Isotope Products Laboratories Models NER-8295, NER-8285, and NER-8275; or 3M Model 3B4G)	200 millicuries total and no single source to exceed the maximum activity specified in the certificate of registration issued by the U.S. Nuclear regulatory Commission or and Agreement State	To be used for static charge elimination in devices that have been registered either with the U.S. Nuclear Regulatory Commission under 10 CFR 32.210 or with an Agreement State and have been distributed in accordance with a Commission or Agreement State specific license authorizing distribution to persons specifically authorized by a Commission or Agreement State license to receive, process, and use the devices.
L	Iron 55	Sealed Sources (Texas Nuclear Model 9254, 9267, and 9290, or Niton Model XLp453, or Metorex Inc. Model X-met 820, 840, and 980)	750 millicuries total and no single source to exceed the maximum activity specified in the certificate of registration issued by the U.S. Nuclear regulatory Commission or and Agreement State	To be used for calibration of and/or sample analysis in x-ray analyzer, x-ray spectrophotometric, or x-ray fluorescence devices that have been registered either with the U.S. Nuclear Regulatory Commission under 10 CFR 32.210 or with an Agreement State and have been distributed in accordance with a Commission or Agreement State specific license authorizing distribution to persons specifically authorized by a Commission or Agreement State license to receive, process, and use the devices.
M	Cadmium 109	Sealed Sources (Texas Nuclear Model 9254, 9267, and 9290, or Niton Model Xli401, Xli421, and Xli453)	200 millicuries total and no single source to exceed the maximum activity specified in the certificate of registration issued by the U.S. Nuclear regulatory Commission or and Agreement State	To be used for calibration of and/or sample analysis in x-ray analyzer, x-ray spectrophotometric, or x-ray fluorescence devices that have been registered either with the U.S. Nuclear Regulatory Commission under 10 CFR 32.210 or with an Agreement State and have been distributed in accordance with a Commission or Agreement State specific license authorizing distribution to persons specifically authorized by a Commission or Agreement State license to receive, process, and use the devices.
N	Americium 241	Sealed Sources (Metorex Inc. Model X-met 820, 840, or 980, Texas Nuclear Model 9254, 9267, and 9290, or Niton Model Xli401, Xli421, and Xli453)	500 millicuries total and no single source to exceed the maximum activity specified in the certificate of registration issued by the U.S. Nuclear regulatory Commission or and Agreement State	To be used for calibration of and/or sample analysis in x-ray analyzer, x-ray spectrophotometric, or x-ray fluorescence devices that have been registered either with the U.S. Nuclear Regulatory Commission under 10 CFR 32.210 or with an Agreement State and have been distributed in accordance with a Commission or Agreement State specific license authorizing distribution to persons specifically authorized by a Commission or Agreement State license to receive, process, and use the devices.
O	Curium 244	Sealed Sources (Metorex Inc. Model X-met 820, 840, and 980)	200 millicuries total and no single source to exceed the maximum activity specified in the certificate of registration issued by the U.S. Nuclear regulatory Commission or and Agreement State	To be used for calibration of and/or sample analysis in x-ray analyzer, x-ray spectrophotometric, or x-ray fluorescence devices that have been registered either with the U.S. Nuclear Regulatory Commission under 10 CFR 32.210 or with an Agreement State and have been distributed in accordance with a Commission or Agreement State specific license authorizing distribution to persons specifically authorized by a Commission or Agreement State license to receive, process, and use the devices.

Item	Radioisotope	Mfg/model No.	Quantity	Purpose of Use
R	Cesium-137	Sealed Sources (Amersham/ Serale Model CDC.701; Isotope Products Laboratory Model GFS-3, 225, and A-3402; 3M Model 4D6P, 4F6S, 4F6ST, and 4F6P; Gamma Industries Model VDHP; Amersham Model CDC.711M, CDC.700, CDC.PE2, CDC.93, or CDC.800, or Ronan Model CS 200S2 and SA1-F37)	700 millicuries total and no single source to exceed the maximum activity specified in the certificate of registration issued by the U.S. Nuclear regulatory Commission or and Agreement State	To be used for level detection, thickness measurement, and similar applications in fixed gauging devices that have been registered either with the U.S. Nuclear Regulatory Commission under 10 CFR 32.210 or with an Agreement State and have been distributed in accordance with a Commission or Agreement State specific license authorizing distribution to persons specifically authorized by a Commission or Agreement State license to receive, process, and use the devices.
S	Cesium-137	Sealed Sources (Ludlum Model 299-1)	50 millicuries total and no single source to exceed the maximum activity specified in the certificate of registration issued by the U.S. Nuclear regulatory Commission or and Agreement State	To be used for level detection, thickness measurement, and similar applications in fixed gauging devices that have been registered either with the U.S. Nuclear Regulatory Commission under 10 CFR 32.210 or with an Agreement State and have been distributed in accordance with a Commission or Agreement State specific license authorizing distribution to persons specifically authorized by a Commission or Agreement State license to receive, process, and use the devices.

SURETY RIDER

To be attached to and form a part of

Bond No. [REDACTED]

Type of

Bond: Financial Guarantee Bond

dated
effective

April 1, 2012

(MONTH-DAY-YEAR)

executed by E. I. du Pont de Nemours and Company, Inc.

,as Principal,

(PRINCIPAL)

and by Fidelity and Deposit Company of Maryland and
Zurich American Insurance Company

,as Surety,

in favor of U. S. Nuclear Regulatory Commission (NRC)

(OBLIGEE)

in consideration of the mutual agreements herein contained the Principal and the Surety hereby
consent to changing:

The Bond amount:

From: Twenty Million Four Hundred Thousand and 00/100 Dollars (\$20,400,000.00)

To: One Million Two Hundred Thirty Six Thousand One Hundred Fifty and 00/100 Dollars (\$1,236,150.00)

Nothing herein contained shall vary, alter or extend any provision or condition of this bond except as herein expressly stated.

This rider
is effective

03-23-2016

(MONTH-DAY-YEAR)

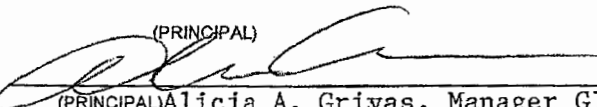
Signed and Sealed

04-05-2016

E. I. du Pont de Nemours and Company, Inc.

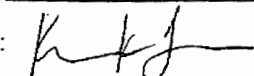
(PRINCIPAL)

By:



(PRINCIPAL) Alicia A. Grivas, Manager Global Treasury Operations
Fidelity and Deposit Company of Maryland and Zurich American Insurance Company

By:



(ATTORNEY-IN-FACT) Kathleen K. Freund

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E. I. DU PONT DE NEMOURS AND COMPANY
ASSISTANT SECRETARY'S CERTIFICATE

In my capacity as an Assistant Secretary of E. I. du Pont de Nemours and Company, a Delaware Corporation, (the "Company"), I hereby certify that:

1. Set forth below is a true copy of action duly taken by the Board of Directors of the Company on October 17, 1949, as last amended by the Office of the Chief Executive on February 14, 1996, and approved, adopted, ratified and confirmed in all respects by the Board of Directors on October 22, 2015, and same is still in full force and effect:

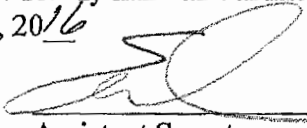
RESOLVED, that any member of the Office of the Chief Executive or any Vice President of DuPont Finance, together with the Secretary or any Assistant Secretary, of this Company, hereby are authorized to sign and execute on behalf of the Company any and all proposals, contracts and/or indemnity, surety or guaranty bonds or agreements necessary in connection with its business with national, state or local governments, corporations, partnerships or individuals, whether in the United States or foreign countries;

2. Set forth below is a true copy of a delegation of authority adopted by the Vice President and Treasurer of the Company effective October 19, 2012 and same is still in full force and effect:

I, D. H. Grier, Vice President and Treasurer of E. I. du Pont de Nemours and Company, (the "Company") hereby delegate to each of the Manager, Global Treasury Operations, and the Treasury Consultant, the authority to sign and execute, together with the Secretary or any Assistant Secretary, on behalf of the Company, any and all surety or guaranty bonds or agreements necessary in connection with the Company's business with national, state or local governments, corporations, partnerships or individuals, whether in the United states or foreign countries.

3. Alicia A. Grivas is the Manager, Global Treasury Operations and Anita Kranz is the Treasury Consultant.

IN WITNESS WHEREOF, I have set my hand and affixed the seal of this Corporation this 8th day of April, 2016


Assistant Secretary
Corporate

(SEAL)

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**ZURICH AMERICAN INSURANCE COMPANY
COLONIAL AMERICAN CASUALTY AND SURETY COMPANY
FIDELITY AND DEPOSIT COMPANY OF MARYLAND
POWER OF ATTORNEY**

KNOW ALL MEN BY THESE PRESENTS: That the ZURICH AMERICAN INSURANCE COMPANY, a corporation of the State of New York, the COLONIAL AMERICAN CASUALTY AND SURETY COMPANY, a corporation of the State of Maryland, and the FIDELITY AND DEPOSIT COMPANY OF MARYLAND a corporation of the State of Maryland (herein collectively called the "Companies"), by **THOMAS O. MCCLELLAN, Vice President**, in pursuance of authority granted by Article V, Section 8, of the By-Laws of said Companies, which are set forth on the reverse side hereof and are hereby certified to be in full force and effect on the date hereof, do hereby nominate, constitute, and appoint **Kathleen K. FREUND and Stacy KILLEBREW**, both of Denver, Colorado, **EACH** its true and lawful agent and Attorney-in-Fact, to make, execute, seal and deliver, for, and on its behalf as surety, and as its act and deed: **any and all bonds and undertakings**, and the execution of such bonds or undertakings in pursuance of these presents, shall be as binding upon said Companies, as fully and amply, to all intents and purposes, as if they had been duly executed and acknowledged by the regularly elected officers of the ZURICH AMERICAN INSURANCE COMPANY at its office in New York, New York, the regularly elected officers of the COLONIAL AMERICAN CASUALTY AND SURETY COMPANY at its office in Owings Mills, Maryland., and the regularly elected officers of the FIDELITY AND DEPOSIT COMPANY OF MARYLAND at its office in Owings Mills, Maryland., in their own proper persons.

The said Vice President does hereby certify that the extract set forth on the reverse side hereof is a true copy of Article V, Section 8, of the By-Laws of said Companies, and is now in force.

IN WITNESS WHEREOF, the said Vice-President has hereunto subscribed his/her names and affixed the Corporate Seals of the said ZURICH AMERICAN INSURANCE COMPANY, COLONIAL AMERICAN CASUALTY AND SURETY COMPANY, and FIDELITY AND DEPOSIT COMPANY OF MARYLAND, this 10th day of September, A.D. 2015.

ATTEST:

**ZURICH AMERICAN INSURANCE COMPANY
COLONIAL AMERICAN CASUALTY AND SURETY COMPANY
FIDELITY AND DEPOSIT COMPANY OF MARYLAND**



By:

Eric D. Barnes

*Secretary
Eric D. Barnes*

Thomas O. McClellan

*Vice President
Thomas O. McClellan*

State of Maryland
County of Baltimore

On this 10th day of September, A.D. 2015, before the subscriber, a Notary Public of the State of Maryland, duly commissioned and qualified, **THOMAS O. MCCLELLAN, Vice President, and ERIC D. BARNES, Secretary**, of the Companies, to me personally known to be the individuals and officers described in and who executed the preceding instrument, and acknowledged the execution of same, and being by me duly sworn, depose and snith, that he/she is the said officer of the Company aforesaid, and that the seals affixed to the preceding instrument are the Corporate Seals of said Companies, and that the said Corporate Seals and the signature as such officer were duly affixed and subscribed to the said instrument by the authority and direction of the said Corporations.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed my Official Seal the day and year first above written.

Maria D. Adamski

*Maria D. Adamski, Notary Public
My Commission Expires: July 8, 2019*



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EXTRACT FROM BY-LAWS OF THE COMPANIES

"Article V, Section 8, Attorneys-in-Fact. The Chief Executive Officer, the President, or any Executive Vice President or Vice President may, by written instrument under the attested corporate seal, appoint attorneys-in-fact with authority to execute bonds, policies, recognizances, stipulations, undertakings, or other like instruments on behalf of the Company, and may authorize any officer or any such attorney-in-fact to affix the corporate seal thereto; and may with or without cause modify or revoke any such appointment or authority at any time."

CERTIFICATE

I, the undersigned, Vice President of the ZURICH AMERICAN INSURANCE COMPANY, the COLONIAL AMERICAN CASUALTY AND SURETY COMPANY, and the FIDELITY AND DEPOSIT COMPANY OF MARYLAND, do hereby certify that the foregoing Power of Attorney is still in full force and effect on the date of this certificate; and I do further certify that Article V, Section 8, of the By-Laws of the Companies is still in force.

This Power of Attorney and Certificate may be signed by facsimile under and by authority of the following resolution of the Board of Directors of the ZURICH AMERICAN INSURANCE COMPANY at a meeting duly called and held on the 15th day of December 1998.

RESOLVED: "That the signature of the President or a Vice President and the attesting signature of a Secretary or an Assistant Secretary and the Seal of the Company may be affixed by facsimile on any Power of Attorney...Any such Power or any certificate thereof bearing such facsimile signature and seal shall be valid and binding on the Company."

This Power of Attorney and Certificate may be signed by facsimile under and by authority of the following resolution of the Board of Directors of the COLONIAL AMERICAN CASUALTY AND SURETY COMPANY at a meeting duly called and held on the 5th day of May, 1994, and the following resolution of the Board of Directors of the FIDELITY AND DEPOSIT COMPANY OF MARYLAND at a meeting duly called and held on the 10th day of May, 1990.

RESOLVED: "That the facsimile or mechanically reproduced seal of the company and facsimile or mechanically reproduced signature of any Vice-President, Secretary, or Assistant Secretary of the Company, whether made heretofore or hereafter, wherever appearing upon a certified copy of any power of attorney issued by the Company, shall be valid and binding upon the Company with the same force and effect as though manually affixed.

IN TESTIMONY WHEREOF, I have hereunto subscribed my name and affixed the corporate seals of the said Companies, this 5th day of April, 2016.



Gerald F. Haley

Gerald F. Haley, Vice President

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