

**MATERIALS LICENSE**

Pursuant to the Atomic Energy Act of 1954, as amended, the Energy Reorganization Act of 1974 (Public Law 93-438), and Title 10, Code of Federal Regulations, Chapter I, Parts 30, 31, 32, 33, 34, 35, 36, 39, 40, and 70, and in reliance on statements and representations heretofore made by the licensee, a license is hereby issued authorizing the licensee to receive, acquire, possess, and transfer byproduct, source, and special nuclear material designated below; to use such material for the purpose(s) and at the place(s) designated below; to deliver or transfer such material to persons authorized to receive it in accordance with the regulations of the applicable Part(s). This license shall be deemed to contain the conditions specified in Section 183 of the Atomic Energy Act of 1954, as amended, and is subject to all applicable rules, regulations, and orders of the U.S Nuclear Regulatory Commission now or hereafter in effect and to any conditions specified below.

Licensee	
1. U.S DEPARTMENT OF COMMERCE	2. License Number: SNM-362, Amendment 6
3. NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY	
100 Bureau Drive, Stop 1731	4. Expiration Date: September 9, 2023
Room C125, Building 245	5. Docket No. 70-398

## 6. Byproduct, Source and/or Special Nuclear Material

A. Uranium enriched to less than 20 wt % in the U-235 isotope

B. Uranium enriched to or greater than 20 wt % in the U-235 isotope

C. Uranium-233

D. Natural Uranium

E. Uranium Depleted in U-235 (Primarily U-238)

F. Any separated Uranium isotope other than U-233, U-235, or U-238

U-232

G. Uranium

## 7. Chemical and/or Physical Form

A. Any form except UF<sub>6</sub>B. Any form except UF<sub>6</sub>C. Any form except UF<sub>6</sub>D.1 Any soluble form except UF<sub>6</sub>D.2. Any insoluble form except UF<sub>6</sub>E.1. Any soluble form except UF<sub>6</sub>E.2. Any insoluble form except UF<sub>6</sub>F.1 Any form except UF<sub>6</sub>F.2 Any form except UF<sub>6</sub>G. As UF<sub>6</sub>

## 8. Maximum that Licensee May Possess at Any One time Under This License

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H. Any isotope of Plutonium, except Pu-238      H. Any form

H.1 Pu-236

H.2 Pu-239

H.3 Pu-240

H.4 Pu-241

H.5 Pu-242

H.6 Pu-244

I. Plutonium

I. Sealed sources(e.g. PuBe)

J. Plutonium enriched to more than 80% in the Pu-238 isotope

J. Any form

K. Th-228

K. Any form

L. Th-229

L. Any form

M. Th-230

M. Any form

N. Th-232

N. Any form

O. Natural Thorium

O. Any form

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P. Any Thorium other than  
Th-228, Th-229, Th-230, or  
Th-232

Q. Radium

R. Radium

S. Co-60

T. Cs-137

U. Po-210

V. Am-241

W. Cf-252

X. Sr-90

Y. Pm-147

Z. I-125

P. Any form

Q. Any form

R. Sealed sources (includes  
RaBe sources)

S. Sealed sources (e.g.,  
irradiators)

T. Sealed sources (e.g.,  
irradiators)

U. Sealed sources

V. Sealed sources (e.g.,  
AmBe)

W. Sealed sources

X. Sealed sources

Y. Sealed Sources

Z. Sources sealed in titanium  
or stainless steel

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## AA. Byproduct material

## AA. Any form

Any nuclide of half-life less than 30 days, except the following:

Au-198

Mo-99, Tc-99m, and Xe-133

Rn-220, Rn-222

I-120m

Pa-230

I-124, I-126

Gd-149

Any nuclide of half-life more than 30 days except for the following nuclides:

H-3

Kr-85

Cs-137

C-14 and Co-60

In-115

NRC FORM 374A

U.S. NUCLEAR REGULATORY COMMISSION

**MATERIALS LICENSE  
SUPPLEMENTARY SHEET**

License Number

SNM-362, Amendment 6

Docket or Reference Number

70-398

I-129

Pb-210

Ac-227

Am-241, 242m, and 243

Bk-247, Es-254

Cf-248, 249, 250, 251, 252, and  
254Cm-242, 243, 244, 245,  
246, 247, and 248

Np-236 and Np-237

Sm-146 and Sm-147

Gd-152, Pa-231, and Cm-250

BB. Any byproduct material with  
Atomic Number 3 to 83 except  
for the following nuclides:

I-129, Sm-146, Bi-210m

BB. Any form- Neutron  
activated materials (e.g.,  
research sample or  
sample container)

CC. Irradiated Fuel U-235

CC. Pellets

9. Authorized place of use: The licensee's existing facilities at Gaithersburg, Maryland, and offsite locations that are under NRC jurisdiction and that are subject to the provisions listed in NIST's license renewal application in Item 3, "Offsite Locations."
10. Authorized Use: For use in accordance with statements, representations, and conditions of the licensee's renewal application dated June 29, 2007; and revised on June 24, 2010; March 23, 2011; June 5, 2013; October 31, 2013; December 27, 2013; November 14, 2016; and January 11, 2017.
11. Deleted.
12. Notwithstanding the requirements of 10 CFR 36.23(b), the licensee is exempt from the requirements that: (1) detection of entry, by an independent backup access control, while the sources are exposed must cause the sources to return to their fully shielded position and must also activate a

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visible and audible alarm to make the individual entering the room aware of the hazard, and (2) the alarm must alert at least one other individual who is onsite of the entry. When an operator is not present the licensee shall arm the independent backup access control system identified in the licensee's letter dated March 5, 2013.

13. Notwithstanding the requirements of 10 CFR 36.23(c), the licensee is exempt from the requirements that attempted personnel entry while the monitor measures high radiation levels, must activate the alarm described in 10 CFR 36.23(b). The licensee shall comply with 10 CFR 35.615(b).
14. Deleted.
15. Notwithstanding the requirements of 10 CFR 36.27(a), the licensee is exempt from the requirement that the sources must automatically become fully shielded if a fire is detected.
16. Notwithstanding the requirements of 10 CFR 36.27(b) the licensee is exempt from the requirement that the radiation room must be equipped with a fire extinguishing system capable of extinguishing a fire without the entry of personnel into the room.
17. Notwithstanding the requirements of 10 CFR 36.31(a), the licensee is exempt from the requirements that (1) the console key must be attached to a portable radiation survey meter by a chain or cable, and (2) the door to the radiation room must require the same key used for source movement (i.e., control console key).
18. Deleted.
19. The Ionizing Radiation Safety Committee (IRSC) shall meet the requirements of 10 CFR 33.13(c) including the review, approval, and recording of safety evaluations of all proposed new uses of byproduct material prior to use of the byproduct material.
20. No sealed source shall be stored for a period of more than 10 years without being tested for leakage and/or contamination.

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21. The applicant is granted an exemption to the requirements of 10 CFR 70.24 to maintain a CAAS.

FOR THE U.S. NUCLEAR REGULATORY COMMISSION

Date: 02/23/2017

By: /RA/ (LCuadrado for)

Robert K. Johnson, Chief  
Fuel Manufacturing Branch  
Division of Fuel Cycle Safety, Safeguards,  
and Environmental Review  
Office of Nuclear Material Safety  
and Safeguards  
U.S. Nuclear Regulatory Commission  
Washington, DC 20555-0001