

**UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION
BEFORE THE SECRETARY**

In the Matter of)	
)	
U.S. DEPARTMENT OF ENERGY)	Docket No. 110-06361
)	
(Export of 93.35% Enriched Uranium))	License No. XSNM3810
)	

**DECLARATION OF LAURA S. H. HOLGATE
PERTAINING TO PETITION TO INTERVENE AND
REQUEST FOR HEARING OF NUCLEAR THREAT INITIATIVE**

I, Laura S. H. Holgate, do hereby state as follows:

I. INTRODUCTION

1. I am Vice President for Materials Risk Management, at the Nuclear Threat Initiative (“NTI”). In this role, I am responsible for NTI’s programs to manage, reduce, and where possible eliminate stocks of fissile materials, including highly enriched uranium (“HEU”). I also engage with the U.S. and other governments, international organizations, and private industry involved in the minimization of HEU.

2. My resume is included at Appendix 1. I have over 25 years of experience in nuclear nonproliferation and national security. I have a Bachelor of Arts degree in Politics from Princeton University, and a Master of Science degree in Political Science from the Massachusetts Institute of Technology. I have served as a senior government official responsible for nuclear security and nonproliferation at the U.S. Department of Defense, the U.S. Department of Energy, and the National Security Council, which included work on HEU minimization and on evaluating the proliferation risks of HEU.

3. Most recently, I was U.S. Ambassador to the International Atomic Energy Agency. In that role I worked on all aspects of U.S. and global non-proliferation policy, including as to the civilian use of HEU, and the transition to low-enriched uranium (“LEU”) fuels and targets.
4. I currently represent NTI on the Steering Committee of the Fissile Materials Working Group, a non-governmental coalition of 80 civil society organizations from around the world working to provide actionable policy solutions to keep the world safe from nuclear terrorism.
5. My perspective on civilian use of HEU and the non-proliferation challenges it raises is included in Appendix 2, my keynote remarks at the Third International Symposium on HEU Minimization, held at Oslo, Norway between June 5-7, 2018. The purpose of the symposium was to focus attention on the issue of HEU minimization in the civilian nuclear sector around the world.
6. I am knowledgeable about the subject matters pertaining to NTI’s September 11, 2019 Petition to Intervene and Request for a Hearing (“Petition”) before the U.S. Nuclear Regulatory Commission (“NRC”). Any factual statements made therein, and in Appendix 2, are supported by my decades of experience in the field of nuclear non-proliferation working for the U.S. government and private sector.

7. I declare under penalty of perjury that my statements set forth above and in my Statement of Professional Qualifications attached hereto are true and correct to the best of my knowledge, information, and belief.

Laura S. H. Holgate

Executed in Accordance with 10 CFR § 2.304(d)

Laura S. H. Holgate
Nuclear Threat Initiative
1776 Eye Street, NW, Suite 600
Washington, DC

Executed on the 11th Day of September, 2019

APPENDIX 1

**LAURA S. H. HOLGATE
RESUME**

Laura S. H. Holgate

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- EXPERIENCE:
- | | |
|--|--------------------------|
| Nuclear Threat Initiative | Washington, DC |
| Vice President, Materials Risk Management | April 2018 – present |
| <ul style="list-style-type: none">• Direct programs to improve security of nuclear and radiological materials globally.• Convene the Global Dialogue Plus, linking international officials, experts, and industry to promote actions to strengthen the global nuclear security architecture.• Foster nuclear security dialogue between the United States and Russia.• Evaluate progress on nuclear materials security through the NTI Nuclear Security Index.• Represent NTI to Fissile Materials Working Group.• Co-founder, Gender Champions in Nuclear Policy. | |
| Independent Consultant | Arlington, VA |
| | January 2017-April 2018 |
| <ul style="list-style-type: none">• Third Way Foundation, project on advanced nuclear reactors and national security.• Pacific Northwest National Laboratory, National Security Division.• Octant Consulting, project on international plutonium management.• Ploughshares Fund, project on gender champions in nuclear policy. | |
| United States Mission to International Organizations | Vienna, Austria |
| Ambassador | July 2016 – January 2017 |
| <ul style="list-style-type: none">• Represented the United States in the International Atomic Energy Agency, the Comprehensive Test Ban Treaty Organization, the United Nations Office of Drugs and Crime, and other Vienna-based international organizations.• Guided preparation for U.S. participation in policy-making bodies and meetings of Vienna-based international organizations.• Interacted with 150 local ambassadors and senior leadership of international organizations to promote US policies and positions.• Hosted frequent Cabinet-level and Congressional delegations.• Led staff of 45 Foreign Service Officers and interagency detailees. | |
| <p><u>Key Achievements:</u> Designed US approach to the Minister-level International Conference on Nuclear Security in 2016 to advance outcomes of the Nuclear Security Summits; initiated creation of a Vienna chapter of International Gender Champions to promote gender balance in staffing and programming of Vienna-based international organizations; launched accelerated listing of fentanyl precursors for export limitations under the Convention on Narcotic Drugs.</p> | |
| National Security Council Staff | Washington, DC |
| Special Assistant to the President | |
| Senior Director for WMD Terrorism and Threat Reduction | July 2009 – June 2016 |
| <ul style="list-style-type: none">• Coordinated US Government efforts to reduce nuclear, biological and chemical threats and prevent WMD terrorism. | |

- As US Sherpa, designed and implemented global effort to secure nuclear materials and prevent illicit trafficking through the landmark Nuclear Security Summits in 2010, 2012, 2014 and 2016.
- Developed the Global Health Security Agenda to promote national and multilateral efforts in biosecurity and public health.
- Led interagency efforts to prevent chemical weapons use in Syria and eliminate Syria's declared chemical weapons program.
- Modernized interagency approach to countering terrorist access to and use of WMD.
- Oversaw interagency activities to monitor and interdict WMD-related illegal transfers.
- Expanded civil nuclear cooperation in ways that support nonproliferation and nuclear security priorities.
- Led staff of seven civilian and military detailees.

Key Achievements: Removal of all highly enriched uranium from Latin America, Southeast Asia, and Eastern Europe; entry into force of the 2005 Amendment to the Convention on Physical Protection; commitment of over 40 countries to implement the Global Health Security Agenda; adoption by World Health Organization of external reviews of health regulation implementation.

Nuclear Threat Initiative

Washington, DC

Vice President for Russia/New Independent States Programs February 2001–July 2009

- Designed Russia/NIS strategy for charitable foundation dedicated to reducing the global threat from nuclear, biological and chemical weapons.
- Developed and executed direct-action projects in Russia and other NIS, working with governments, international organizations, private firms, and other foundations.
- Oversaw implementation of over \$20M in programmatic activity.
- Represented NTI internationally with experts, officials, and media.
- Managed and developed four Washington- and Moscow-based staff.

Key Achievements: removal of 2+ bombs' worth of highly enriched uranium from Serbia; new tools for jobs creation for 200 Russian personnel leaving nuclear weapons facilities; introduction of a fuel bank owned and operated by the International Atomic Energy Agency to reduce incentives to spread uranium enrichment technology.

US Department of Energy

Washington, DC

Director,

Office of Fissile Material Disposition

August 1998–January 2001

- Developed and implemented policy for consolidation and disposal of 50 tons of plutonium and 175 tons of highly enriched uranium no longer required for US defense purposes.
- Directed development and design of three major disposition facilities in the US.
- Represented DOE in negotiations with Russia on disposition of excess plutonium, and directed over \$200M in US assistance to Russia in achieving its disposition commitments.
- Developed and defended annual budget of ~ \$250M.
- Managed staff of forty federal employees.

Key Achievements: signature of Plutonium Management and Disposition Agreement between US and Russia in 2000; procurement of lead contracting team to design, construct and operate US plutonium disposition facilities.

Office of the Undersecretary of Defense for Policy

US Department of Defense

Washington, DC

Special Coordinator and Director,

Cooperative Threat Reduction

July 1995–July 1998

- Developed policy for Cooperative Threat Reduction program of \$1.8 billion in assistance to former Soviet states for securing and destroying nuclear, chemical and biological weapons.
- Supervised conclusion of agreements with former Soviet states on nuclear dismantlement, nuclear weapons control and accounting, chemical weapons destruction, fissile material storage, and nuclear infrastructure elimination.
- Conducted negotiations on fissile material transparency efforts with Russia.
- Directed DoD preparations for Secretary of Defense participation in semiannual Gore-Chernomyrdin Commission meetings.
- Managed staff of eight military officers and civil servants.
- Awarded Secretary of Defense Medal for Outstanding Public Service, January 1997; awarded Bronze Palm, August 1998.

Key Achievements: denuclearization of Belarus, Ukraine and Kazakhstan; transition of CTR program to requirements-driven, accountable planning and budgeting; initiation of US-Russian cooperation in biological threat reduction.

Special Assistant to the Assistant Secretary

of Defense for International Security Policy

May 1993–July 1995

- Served as advisor to ASD/ISP, conducting and coordinating special projects in all areas of ISP responsibility: arms control; US and Russian nuclear weapons; proliferation; and policy toward Russia, Ukraine and Eurasia.
- Oversaw Congressional and public agendas of ASD and ISP staff.
- Managed large, complex projects including Congressional strategy for Cooperative Threat Reduction program, presentation of the Nuclear Posture Review, and portions of the Annual Defense Report.

Arms Control and Disarmament Agency

Washington, DC

Transition Team Member

December 1992–March 1993

Special Assistant to the Director

March 1993–May 1993

- Created policy papers on arms control, denuclearization, and proliferation issues.
- Provided advice and conducted special projects for Director.

EDUCATION:

Massachusetts Institute of Technology

Cambridge, MA

- Earned Master of Science (SM) in Political Science.
- Thesis title: “The Environmental Politics of Chemical Weapons Destruction,” advised by Professor Harvey Sapolsky.
- Specialized in national security, defense, and arms control.

Princeton University

Princeton, NJ

- Earned Bachelor of Arts (AB) in Politics, *magna cum laude*.
- Completed thesis with Professor Manfred Halpern on the roots of modern terrorism.
- Specialized in international relations, foreign policy, political theory, and French language and literature.

AFFILIATIONS: **Belfer Center for Science and International Affairs, Kennedy School of Government, Harvard University**, Senior Nonresident Fellow
Department of Nuclear Engineering, University of Michigan, Advisory Board
Department of Nuclear Engineering, Pennsylvania State University, Advisory Board
Third Way Foundation, Advisory Group on Advanced Reactors and National Security
National Academy of Science, Committee on Enhancing U.S. Nuclear Forensics and Attribution Support Capabilities
Center for Arms Control and Nonproliferation, Szilard Advisory Board

PERSONAL: Memberships: Women in International Security (past President), Council on Foreign Relations, Institute of Nuclear Materials Management
Clearances: Top Secret/SCI/Q

APPENDIX 2

**KEYNOTE ADDRESS AT THE
THIRD INTERNATIONAL SYMPOSIUM ON HEU MINIMIZATION
OSLO, NORWAY**

Remarks by
Laura S. H. Holgate
Vice President, Nuclear Threat Initiative

at the
Third International Symposium on HEU Minimization
Oslo, Norway
June 6, 2018

I am grateful to the government of Norway and to the individuals working under the skilled direction of Atle Konta Midttun and Styrkaar Hustveit, who put together this third HEU Symposium here in Oslo. This event reflects Norway's history of leadership on this critical element of global nuclear security, and the tradition of building teams to go beyond talking to really "doing."

I had the good fortune to attend the first HEU Symposium 12 years ago. Today, there are many differences from that first meeting, but there is a lot that remains the same.

On one hand, the number of countries holding HEU has decreased from 50 to just 22 in a matter of a couple decades. Today, here at this conference, we've heard about a huge amount of effort to get there and to continue to reduce HEU in civil use to the absolute minimum necessary. Everyone involved in this effort deserves tremendous credit for the time, energy, technical knowledge, resources, creativity, perseverance, and cooperation that has gotten us this far. As a result, we have three entire regions – South America, Central and Eastern Europe, and Southeast Asia – that no longer contain HEU.

Something that is the same is that I am once again representing the Nuclear Threat Initiative, as I did in 2006. NTI has been a pioneer in the HEU minimization effort, putting its own money and effort where its mouth was in 2002 with Project Vinca, one of the first post-9/11 HEU removal efforts. That project proved that the concept of multiple partners working together under the umbrella of the IAEA to accomplish a shared set of objectives was viable. This concept was soon adopted by the US Department of Energy and became the backbone of the work

whose fruits we celebrate today. NTI has continued to carry out analysis, advocacy, and action in support of HEU minimization, and I am here in part to seek new ideas about how NTI can support this mission into the future.

Though considerable progress has been made in bolstering the security around these facilities, with the help of the Nuclear Security Summit process, challenges remain:

- First, we lack comprehensive global inventories of civil HEU – although the International Panel on Fissile Materials does a terrific job with limited information;
- We still have no binding international standards for nuclear security;
- Security for nuclear facilities remains uneven across the globe;
- Several states continue to increase their own stockpiles of HEU for weapons purposes;
- HEU continues to be utilized as the primary fuel for reactors among the P5;
- Regulatory approval of high-density LEU fuel that is needed for some of the most challenging reactor conversion needs remains at least a decade away.

We have some new challenges, as well, that have come to the fore since that first Symposium:

- Key nonproliferation norms are fraying, as we see in the contentious NPT Review Conference, in the Iran Deal's precarious situation, and in the use of chemical weapons by the Assad regime and by terrorists alike;
- After decades in which none of the P5 were producing HEU, Russia has restarted production specifically for civilian use;
- The emergence of Generation IV reactor technology has opened the possibility that some countries in those HEU-free zones may reintroduce HEU for energy purposes.

Too often, these discussions get bogged down by myths, including:

- “HEU that is under IAEA safeguards is not vulnerable to theft”;
- “Only 90% enriched uranium can be used for weapons”;
- “New reactor types will require new HEU-based critical assemblies to mock up their core designs, and even old critical assemblies are still needed to support reactor operations”;

- “Conversion to LEU makes reactors less capable”;
- “Civilian HEU facilities in weapons states don’t matter because the state already has weapons”;
- “Only rich countries are targets for nuclear terrorism – nuclear terrorism won’t affect my country”;
- “Research reactors can’t be expected to live up to security regulations designed for large power plants”;
- “Small quantities of HEU aren’t worth worrying about because they are too small to make a weapon”;
- “Nuclear security is a luxury only rich countries can afford and it should not interfere with ambitions of developing countries”.

None of these myths is true, and we need to stop making policies based on them.

Allow me to propose some possible steps to further HEU minimization (many of which have been included in recent NTI publications).

First and foremost, many here today in Oslo have referenced the Nuclear Security Summit process and pledges made in that context. We need to sustain the progress achieved during the NSS and address remaining gaps in the global nuclear security architecture. We can do this by building on the success and long-term viability of the Nuclear Security Contact Group. We need to work to expand the number of countries signing up to implement INFCIRC/912, regarding commitments on HEU minimization.

Though there is currently no ongoing Nuclear Security Summit process, member states should look to next year’s IAEA Nuclear Security Ministerial as an opportunity to continue to make public declarations and pledges regarding nuclear security progress, including on HEU minimization. We need to make the 2021 Review Conference of the Convention on Physical Protection robust and substantive and establish that such conferences will continue. Over time, this can become another venue for pledges and even for peer review, similar to the Convention on Nuclear Safety.

It is imperative we provide additional resources to IAEA for its nuclear security mission – both in the regular budget and in extrabudgetary contributions.

We should continue to promote international norms around minimization of HEU production and use with help of economic incentives. An example of this is building up expectations that all of the 22 remaining countries with civilian HEU should have regular International Physical Protection Advisory Service missions to review how well facilities with HEU are implementing IAEA nuclear security guidelines.

Second, we should aim to minimize and, where possible, eliminate stocks of weapons-usable nuclear materials and locations where they are located. Future efforts could focus on codifying HEU-free zones in regions that are already free of HEU, such as South America and Southeast Asia. Simultaneously, we must continue to support the eventual elimination of HEU globally, HEU reactor conversions, HEU repatriation efforts, and phasing out HEU for medical isotope production.

Next, we need to seek opportunities to re-invigorate nuclear security cooperation with Russia and other states. As the largest operator of HEU facilities in the world, Russia is, and will continue to be, critical to minimization efforts. Cooperation in this area should be based on principles of mutual benefit and equality, not unilateral assistance.

We also need to work with Russia to reverse their decision to start new production of HEU for export. In this same vein, we must engage with other states still operating HEU reactors, namely China, France, and Germany, to encourage conversion to LEU. The US needs to recommit to eventual conversion of our own HEU-based research reactors – a prospect weakened by recent steps in Congress to cut funding for such conversions.

Looking in to the future, we need to ensure that the norm of HEU minimization is maintained in the construction of new facilities. There is no question that the decision around reactor design is for each nation to make themselves, but no country should be undercutting the essential technical judgment reached here in Oslo 12 years ago: for new civilian reactors, there are virtually no research, isotope production, or energy requirements to use HEU, because new cores can be optimized to LEU fuel.

Having spent decades reversing the well-intentioned but misguided fuel decisions of Atoms for Peace at a great cost, we should not now commit the same error that will only recreate the risks that we have been reducing all these years.

Work being done at facilities such as the International Centers of Excellence for Research Reactors offer the chance to do experiments and materials testing at a few highly capable and well-managed facilities that still use HEU, so that countries don't need to build their own HEU reactors. This is one example of a solution for balancing energy and research demands with minimizing security risks.

Domestically, national regulations should reflect the full spectrum of security risks posed by HEU, and exporters of HEU should insist on first-hand review of facilities that will use and store it fully meet INFCIRC/225 recommendations, as agreed by the Nuclear Suppliers Group.

Lastly, we must seek to ensure effective security of military HEU. Efforts should be undertaken to encourage states to declare and give assurances that their military materials are secured to the same or higher standards as those applied to comparable civilian nuclear materials. The US Navy should take more seriously the prospect of converting from HEU to LEU for surface and submarine propulsion, while still achieving the high performance and long core life that underpins current designs. Other countries considering naval propulsion programs should build on French experience with LEU cores.

At some point, however, we will likely reach the limits of HEU minimization. We need to understand that as long as weapons-usable materials exist, we will be responsible for their careful stewardship. This is why I have been advocating from a shift in language from "threat reduction" to "risk management". Nuclear security is never done, and we need to regulate, budget, plan, and execute to high standards with that in mind.

