

TESTIMONY OF DR. GERALDINE RICHMOND,
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U.S. DEPARTMENT OF ENERGY
BEFORE THE
COMMITTEE ON SCIENCE, SPACE, AND TECHNOLOGY
UNITED STATES HOUSE OF REPRESENTATIVES
REGARDING
EXAMINING FEDERAL SCIENCE AGENCY ACTIONS TO SECURE THE U.S.
SCIENCE AND TECHNOLOGY ENTERPRISE

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Introduction

Chairman Lucas, Ranking Member Lofgren, and distinguished Members of the Committee, thank you for this opportunity to provide an update on the Department of Energy's (DOE or Department) approach to research security. Research security has been a priority for the Department for decades, with policy questions that date back to the Atomic Energy Commission and the secrecy associated with the Manhattan project. We are constantly working to reevaluate and refine our approach to balance scientific collaboration with economic and national security concerns effectively. The Department appreciates the Committee's sustained and purposeful efforts to understand this important topic and develop constructive policies.

Research, Technology, and Economic Security

The Department takes seriously its responsibilities to manage federal funding to the benefit of the taxpayer. We engage in the necessary due diligence and oversight mechanisms to ensure integrity in our programs and to be responsible stewards of the taxpayer dollar. With the enactment of BIL and IRA, which provided more than \$62 billion for programs under the purview of the Department of Energy, it has become more important than ever for the Department to have a comprehensive and rigorous approach to research, technology, and economic security (RTES) policy and procedures for its financial assistance awards and loans. DOE developed, and continues to improve upon, a number of RTES measures to mitigate risk that malign foreign governments pose to our scientific and technological development ecosystem, supply chains, and intellectual property.

To ensure a robust RTES approach, DOE took three major actions to address the many forms of RTES risks. First, DOE enhanced its existing due diligence processes to ensure that risks of undue foreign influence are considered early in the competitive process and throughout the life

of a DOE supported project or loan. DOE also included strict RTES requirements for its financial assistance and loan programs. For example,

- No person participating in foreign talent program sponsored by a country of risk may participate in a project.
- Entities applying for funding must be fully transparent regarding foreign connections associated with individuals and entities proposed to participate in the project. Transparency includes sharing sources of intellectual property, foreign collaborations related to the project scope, foreign ownership, and foreign affiliations. Continued transparency is required during the life of a project.

Second, DOE established a department-wide RTES Policy working group to review, develop, and assist in the implementation of RTES policies. Third, the Department established a new RTES Office to implement and continue to evolve DOE's enhanced due diligence process for financial assistance and loan projects, build awareness internally within DOE on RTES issues, engage with external stakeholders, and review DOE national lab agreements involving foreign entities.

RTES Due Diligence Process

For grants and cooperative agreements, the RTES review occurs at three primary phases in the program lifecycle:

- **Phase 1:** A review is conducted on Funding Opportunity Announcements (FOAs) prior to publication. This ensures that appropriate language is included in the published document, such that potential applicants understand the RTES-related requirements and/or reviews their projects will be subject to.
- **Phase 2:** Prior to selection, a review is conducted of applications that are more likely to be considered for selection.
- **Phase 3:** For funded projects, an RTES review may be triggered in situations where there are changes to the project, personnel, or ownership/control changes that could affect RTES.

A key aspect of the Department's due diligence process is recognizing that addressing RTES risks is the responsibility of the entire Department, not a single office. While the RTES Office serves a central resource to support the program offices in addressing RTES, part of the RTES Office's mission is also to build awareness internally within DOE. Doing so leverages the resources across DOE to identify potential RTES concerns and does not isolate the responsibility to a single office. We want to ensure that each DOE project team of technology managers, project officers, and contracting officers are equipped to understand the RTES concerns, to identify potential concerns as they carry out their merit reviews, review award packages, and monitor ongoing projects. The enhanced due diligence process also relies on the support of the Office of Intelligence and Counterintelligence, DOE's CFIUS Office, and business intelligence tools.

DOE Principles for Evaluating RTES Risk

The following principles guide DOE's decision-making when evaluating RTES risks.

1. **Onshore, Reshore, and Reassert U.S. Leadership in Manufacturing and Deployment of Critical and Emerging Energy Technologies.** The United States must strengthen its competitive edge by making critical domestic investments, especially in sectors that are vital to U.S. national security and economic interests; and protecting and building the resiliency of those investments. Bringing manufacturing back to the U.S. will necessarily involve interaction with foreign entities, but doing so smartly and with eyes-wide-open will ultimately benefit the U.S. economy by developing domestic expertise and building resilient supply chains.
2. **Bolster Supply Chain Security.** Diverse and resilient energy supply chains are imperative for U.S. national security. DOE will support projects that have the potential to build secure supply chains in partnership with our allies and to reduce our reliance on countries of concern. Until we have guaranteed access to secure supply chains, we must remain vigilant that the supply chains we depend on are not exploited by countries of concern.
3. **Make Risk-Based Investment Decisions.** In making historic investments in clean energy, the Department must make risk-based decisions that minimize potential intellectual property loss, supply chain dependencies, and threats to national security. DOE will balance the need to address RTES with the imperative to bolster our overall competitiveness and to maintain core scientific principles of openness and collaboration.
4. **Protect the Taxpayer.** The Department's fundamental responsibility is to be an effective steward and protector of taxpayers' money. If the Department partners with an entity with ties to a country of concern, it will do so in a responsible manner, and only if, after careful deliberation, it is determined there is a significant net-benefit to the U.S. and the risks can be sufficiently mitigated.
5. **Ensure Transparency.** Entities applying for DOE support must be fully forthcoming regarding foreign connections associated with individuals and entities participating in a project, particularly connections involving countries of concern. Transparency includes sharing sources of intellectual property rights, equipment, materials, property, and other support. Likewise, DOE's policies will incorporate transparency.

Research Security at National Labs

DOE has developed, in partnership with the national laboratories, a Science and Technology (S&T) Risk Matrix to protect emerging research and technologies.

The S&T Risk Matrix highlights areas of emerging research and technologies and provides guidance to address potential concern associated with economic and/or international competitiveness that does not overlap or supersede existing controls associated with national security or export controls.

The S&T Risk Matrix uses a Red/Yellow/Green categorization format to quantify the risk associated with a given topic and the resulting level of controls that are required, with red assessed as highest area of risk.

The S&T Risk Matrix applies only to the national laboratories and for international transactions that include country of concern foreign national access requests to the laboratories, travel to countries of risk on restricted topics and country of risk engagement requests with the national laboratories.

For technologies or information determined by DOE in the S&T Risk Matrix to be less sensitive and not restricted, where DOE believes the collaboration will result in a net gain to DOE and the U.S. scientific enterprise, DOE promotes collaboration with nationals and entities, including countries such as China. As this Committee very well knows, countries of concern are limited to China, Russia, Iran and North Korea.

Additionally, in 2019, the Department established a policy prohibiting DOE personnel, to include laboratory M&O contractors, from participating in Talent Recruitment Programs sponsored by countries of concern.

In 2020, that policy was expanded to include a restriction of Other Foreign Government Sponsored or Affiliated Activities sponsored by countries of concern. Participation in these activities must be approved by the Secretary of Energy. The scope of covered activities includes the following: employment, in-kind contributions or promises of future employment in the form of grants, awards, funding, scholarships, and appointments.

The purpose of these policies is to specifically address potential Conflict of Interest (COI) and Conflict of Commitment (COC) that China and other countries use to co-opt DOE researchers and thereby undermine U.S. national and economic security. We work to continually evaluate their effectiveness and improve procedures in order to maximize security for sensitive laboratory information while minimizing negative impacts to critical collaborative efforts among the global scientific community. We also seek to ensure that the administrative burden of these policies and programs is manageable and that our policies do not fuel xenophobia or prejudices in any way.

Intellectual Property Developed with DOE Funding

The Department takes its stewardship of taxpayer funded technologies and facilities extremely seriously. Like our groundbreaking scientific and technological solutions, protecting taxpayer funded intellectual property (IP) is, and has always been, part of DOE's DNA. Now under increasing threat of theft and misappropriation in the current hypercompetitive global environment, safeguarding DOE's and our nation's IP assets is indispensable to U.S. technological competitiveness and leadership. Risk-based IP protections for transformative scientific breakthroughs will help maximize our nation's competitive advantages, establish secure and resilient domestic supply chains, and continue to make the United States the most attractive destination for investment in new energy technologies which boost our energy security and independence.

DOE continues to adapt and evolve our IP safeguards as technologies and their associated risks change. The due diligence and vetting efforts spearheaded by the RTES Office and the continued stewardship of the Science and Technology Risk Matrix ensure that IP considerations will continue to be a key factor in risk management decisions across the DOE complex. In addition, after a comprehensive internal review of the IP licensing practices and procedures at our National Laboratories, the Department is currently working closely with our laboratory contractors to apply targeted risk mitigations and monitoring standards, including enhanced DOE oversight, to ensure that licenses to IP owned by our National Laboratory contractors by law benefit the U.S. economy and taxpayers and protect U.S. economic and national security interests. DOE is also in the process of leveraging new authority under the Bipartisan Infrastructure Law to give our R&D partners additional data protection tools to better enable commercialization and help safeguard against potential misappropriation.

In addition, the Department remains fully committed to ensuring that innovation funded in America stays in America. In fact, DOE took administrative action in 2021 to go beyond minimum statutory obligations to require that new breakthrough science and energy technologies funded by the Department are manufactured here in America. This policy provides a strong signal that DOE is committed to ensuring that all technologies funded by the Department are manufactured in America by U.S. industry and labor whenever commercially feasible. Using DOE policy as a blueprint, in July, President Biden signed Executive Order 14104 formalizing the Administration's "Invent it Here, Make it Here" policy to ensure that the President's historic R&D investments in America benefit American workers, communities, and supply chain resilience. We are pleased to be a part of the Administration's initiative to support domestic manufacturing of technologies that are invented using DOE research funding.

Agency and Administration-wide Commitment to Open Science

America's leadership in Science and Technology (S&T) is underpinned by the unique strengths of our open scientific enterprise. As a democratic nation, our ability to maintain scientific and technological standing is dependent on not only preserving, but promoting the openness of our scientific ecosystem. In addition, promoting international collaboration is crucial to maintaining US science and technology competitiveness and leadership capabilities. We are an open society and that is a key driver in what attracts the best scientific talent from across the globe to our country.

However, the actions of certain foreign governments pose unacceptable risks to the DOE enterprise. DOE must manage risks to research security while maintaining an open, collaborative, and world-leading scientific enterprise.

DOE wants to maintain the benefits of open systems, while incorporating research, technology, and economic security provisions into funding decisions as well as continuing to implement policies to protect the national laboratories and protect against abuses. It is important to understand when competitor nations are seeking to exploit our system and establish the appropriate risk mitigations. DOE must implement nuanced and balanced approaches to combat competitor nations from exploiting our open systems.

DOE's Implementation of Research Security Provisions in the 2020 and 2021 NDAA's, the NPSM-33, and CHIPS and Science

The Department is working diligently to adjust and upgrade DOE's current research security posture in response to Congressional direction on research security via various laws such as the *CHIPS and Science Act*, the *National Defense Authorization Acts* of 2020 and 2021, and the *SBIR and STTR Extension Act of 2022*, as well as Presidential directives such as the National Security Presidential Memorandum 33 (NSPM-33). The CHIPS and Science Act was a historic bill designed to revitalize America's scientific research and technological leadership and strengthen America's economic and national security. This Committee was instrumental in the development and passage of the CHIPS and Science Act, authorizing activities at the Department of Energy that we are uniquely positioned to carry out. The Department is pleased that Congress authorized the Science and Technology Risk Matrix in the *CHIPS and Science Act*, an important risk management tool in the Department's research security toolkit.

In addition to the RTES Office, the cross-cutting RTES Policy Working Group will steward and shape the Department's research security policy approach to ensure compliance with Congressional requirements and direction. The Department continues to engage with the National Science and Technology Council (NSTC) Research Security Subcommittee on common disclosure forms for senior/key researchers pursuant to section 223 of the Fiscal Year 2021 NDAA and NSPM-33 to ensure consistency with legal requirements and agency authorities. DOE has initiated an update to its current and pending support for financial assistance guidance and anticipates posting its conflict of interest/conflict of commitment Notice of Proposed Rulemaking for public comment in the near future. The Department has also initiated a review of its directive on Foreign Government Sponsored or Affiliated Activities, including Foreign Government Talent Recruitment Programs, last updated in 2020, which will, in part, ensure compliance with applicable requirements under the CHIPS and Science Act.

Conclusion

Chairman Lucas, Ranking Member Lofgren, and Members of the Committee, thank you again for the opportunity to testify before you today. I look forward to answering your questions.