



**U.S. Department of Commerce
International Trade Administration**

Civil Nuclear Trade Advisory Committee (CINTAC) Meeting

Eighth Charter, 2022-2024

Thursday, July 18, 2024, 10:00 a.m. - 4:00 p.m. EDT

In-person, Herbert C. Hoover Building (1401 Constitution Ave NW, Washington, DC 20230), Room 1412/1414
and virtual via MS Teams

Meeting Minutes

10:00 – 10:05

Welcome and Roll Call

- Mr. Chesebro, DFO, and Ms. Berrigan, CINTAC Chair, opened the meeting. Ms. Berrigan thanked the committee members for their work during the charter. She highlighted the accomplishments, including the recommendations submitted to the Secretary.

10:05 – 11:05

Discussion: Proposed CINTAC Letters

- The Subcommittee chairs discussed proposed recommendations, including a letter on workforce development and one on domestic deployment. The committee discussed specific proposed wording and voted on whether to transmit letters before August close of the Charter or whether to draft a letter to the next Charter's membership about areas of future work for the committee.
- Speakers
 - Adam DeMella – First-of-a-Kind (FOAK) Subcommittee Chair
 - Gary Wolski and Myron Kaczmarzky, Supply Chain Subcommittee Co-Chairs
 - Rob Sweeney, Government and Industry Gaps Subcommittee Co-Chair

11:05 – 11:45

TeamUSA Discussion of CINTAC Letters

- U.S. Government representatives from the TeamUSA Civil Nuclear Working Group discussed the [CINTAC's four letters](#) of recommendation and answered questions from CINTAC members about some recommendations under consideration.
 - On the letter regarding Opportunities for Enhanced Commercial Nuclear Engagement, ITA noted that it plans to use its Civil Nuclear Newsletter to share updates with U.S. industry about U.S. Government activities that are of interest and relevant to interest.
 - On the letter requesting ITA to update its 2017 Civil Nuclear Top Markets Report (TMR), ITA noted that it plans to release an updated TMR next year.
 - On the letter requesting more resources to support the TeamUSA Civil Nuclear Working Group, the interagency noted that TeamUSA does not have a specific budget associated with it and that it aims to use agency staff resources to support the group's activities.



- On the letter regarding the recent ban on Russian uranium, ITA noted that it will work with the interagency to ensure on the waiver process.
- Speakers:
 - Lauren Joyce, Chief of Staff & Senior Policy Advisor, Office of International Nuclear Energy Policy and Cooperation, U.S. Department of Energy (DOE)
 - Michelle Scott, Senior Advisor, Office of Nuclear Energy, DOE
 - Kirsten Cutler, Senior Strategist for Nuclear Innovation, Bureau of International Security and Nonproliferation (ISN), U.S. Department of State
 - Carl B. Kress, Regional Director, Middle East, North Africa, Europe and Eurasia, U.S. Trade and Development Agency
 - Tom Haslett, Director - Energy & Critical Minerals Policy, U.S. Development Finance Corporation

11:45 – 12:15

Update from U.S. Department of Commerce Leadership

- Ms. Berrigan gave an overview of the CINTAC’s four recommendations under the current charter term.
- Under Secretary Lago spoke about Department of Commerce priorities in the civil nuclear sector and discussed the importance of the Committee’s work. She noted several ITA initiatives to support the U.S. civil nuclear industry, including the Small Modular Reactor Public-Private Program (SMR PPP), the U.S. Industry Program to the International Atomic Energy Agency (IAEA) General Conference, and the Advocacy Center. She stressed the importance of specificity in the Committee’s recommendations and sending letters that are actionable by the Department of Commerce.
- The noted the important role that industry plays in USG efforts to expand U.S. exports, referring to USG advisory committees as force multipliers.
- In response to CINTAC member questions, she offered advice on setting priorities, moving forward and how to improve the efficacy of the committee’s recommendations to the Secretary.
- Speakers:
 - Marisa Lago, Under Secretary of Commerce for International Trade, U.S. Department of Commerce.
 - Carol Berrigan, CINTAC Chair

12:15 – 1:00

Working Lunch

1:00 – 1:30

Briefing: DOE Multilateral Civil Nuclear Activities

- Mr. Apicelli briefed the committee on DOE's multilateral civil nuclear engagement activities and the importance of strategic messaging on the role nuclear energy will play in national approaches to reach Net Zero pledges. He noted the pattern of the annual significant international engagement calendar and how US diplomacy on the issue aligns with US Clean Energy priorities.
- He discussed the USG's role in multilateral activities such as negotiations under G7, G20, and the International Energy Agency (IEA). He also noted that nuclear energy has been prominently highlighted at the UN Climate Change Conference and in the Clean Energy Ministerial. He also noted nuclear's growing role in country's clean energy transition plans.
- **Speaker:**
 - Michael Apicelli, Director for Multilateral Climate and Clean Energy Engagement, U.S. Department of Energy (DOE)

1:30 – 2:00

Finalize CINTAC Recommendations

- CINTAC members finalized edits and approved sending two letters to the Secretary, one on workforce development and one on domestic deployment.

2:00 – 2:45

Conclusion and Next Steps

- **Speakers:** Jonathan Chesebro, CINTAC Co-DFO; CINTAC Chair Carol Berrigan
 - Mr. Chesebro reminded the members that this meeting was the final meeting of the eighth CINTAC charter term (2022-2024) and that the members who were interested in participating in the ninth charter should look for a Federal Register Notice for details on how to apply to the next charter term.
 - Mr. Chesebro and Ms. Berrigan emphasized how productive the committee had been during its charter term and thanked members for their participation.

2:45 – 3:00

Public Comment & Adjourn

Members of the Public:

- John Kutsch, Executive Director Thorium Energy Alliance
- Justin Meyers, Senior Policy Advisor, Nelson Mullins
- Michelle Amante-Harstine, CEO, Congressional Energy Engagement, LLC

- Mr. Kutsch gave brief remarks highlighting the work of the Thorium Energy Alliance, whose mission is to educate on the uses of Thorium as a fuel for nuclear power and as a material derived from the rare earth metals refining process. TEA has worked to revive research and promote the industrial applications of Thorium.

Meeting Participants

CINTAC Members

- Mr. Billy Mack, President and CEO, Accelerant Solutions
- Mr. Craig Piercy, Executive Director and CEO, American Nuclear Society (ANS)
- Dr. Hash Hashemian, President, Analysis and Measurement Services Corporation (AMS)
- Ms. Colleen Deegan, Vice President and Manager, Bechtel Power Corporation
- Dr. Danielle Castley, Founder & CEO, Becq
- Mr. Glenn Neises, Nuclear Director, Burns & McDonnell
- Mr. Nicholas McMurray, Managing Director, Public Policy, ClearPath
- Mr. Rod Baltzer, Chief Operating Officer, Deep Isolation
- Mr. Colin Austin, Senior Vice President of International Business, EnergySolutions
- Mr. Donald Hoffman, Founder/President/CEO, EXCEL Services Corporation
- Mr. Jarret Adams, Founder and CEO, Full On Communications, LLC
- Mr. Adam DeMella, Senior Vice President, Global Government Affairs and Policy, GE Hitachi Nuclear Energy
- Mr. Brandon Brooks, Senior Manager, Strategic Business Development, General Atomics – Electromagnetics (GA-EMS)
- Ms. Amy Roma, Partner and Global Energy Practice Area Leader, Hogan Lovells
- Mr. Myron Kaczmarek, Vice President, Holtec Government Services, Holtec International
- Mr. Paul Amico, Director, International Industrial Practice, Jensen Hughes
- Mr. Seth Grae, President and CEO, Lightbridge Corporation
- Mr. Alex Polonsky, Partner, Morgan, Lewis, & Bockius LLP
- Dr. Michael McMahon, Vice President, Transportation and Strategic Projects, NAC International
- Ms. Carol Berrigan, Executive Director, Federal Programs and Supplier Relationships, Nuclear Energy Institute
- Mr. Robert Sweeney, Head of Energy and Infrastructure, nXSolutions
- Mr. Jeff Merrifield, Partner and Energy Section Leader, Pillsbury Winthrop Shaw Pittman, LLP
- Mr. Nathan Schukei, Sales and Business Development Manager, Rosemount Nuclear Instruments, Inc.
- Mr. Joseph Green, Chief Nuclear Officer, Thermal Engineering International (USA), Inc.
- Mr. Alan Ahn, Senior Resident Fellow for the Climate and Energy Program, Third Way
- Mr. Michael McMurphy, Senior Fellow, U.S. Nuclear Industry Council (USNIC)

U.S. Government

- Marisa Lago, Under Secretary of Commerce for International Trade, U.S. Department of Commerce, International Trade Administration (DOC/ITA)
- Jonathan Chesebro, Civil Nuclear Team Lead, Office of Energy and Environmental Industries (OEEI), DOC/ITA
- Emily Church, Senior International Trade Specialist, OEEI, DOC/ITA
- Heather Evans, Deputy Assistant Secretary for Manufacturing, DOC/ITA
- Lauren Joyce, Chief of Staff & Senior Policy Advisor, Office of International Nuclear Energy Policy and Cooperation, U.S. Department of Energy (DOE)
- Michelle Scott, Senior Advisor, Office of Nuclear Energy, DOE
- Michael Apicelli, Director for Multilateral Climate and Clean Energy Engagement, DOE
- Kirsten Cutler, Senior Strategist for Nuclear Innovation, Bureau of International Security and Nonproliferation, U.S. Department of State

- Carl B. Kress, Regional Director, Middle East, North Africa, Europe and Eurasia, U.S. Trade and Development Agency
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Draft CINTAC Letters for Discussion at July 18, 2024 Meeting

Letter on Domestic Deployment

Dear Secretary Raimondo:

The Civil Nuclear Trade Advisory Committee (CINTAC) appreciates your leadership and support for America's civil nuclear energy industry. The Biden Administration's leadership in civil nuclear strengthens our economy, achieves U.S. clean energy priorities, supports U.S. competitiveness, creates high-paying jobs, and strengthens U.S. energy and national security.

Nations around the world face the need to transition away from fossil fuels, while ensuring their own energy security. Recent advances in nuclear deployment and nuclear exports by Russia and China, as well as Russia's continued war against Ukraine, highlight the urgent need for U.S. leadership so we can offer technology choices as alternatives. Executing the Advanced Reactor Demonstration Program (ARDP) Pathway 1 projects and authorizing and appropriating domestic LEU and HALEU supply for an orderly energy transition demonstrates the U.S. Government's commitment to nuclear deployment.

However, more progress on domestic deployment, including a sense of urgency, is needed if we are to offer competitive and compelling U.S. nuclear technology exports. Since nearly all international partners demand to see U.S. licensing and deployment of our technologies before they commit to them, domestic deployment is a *vital first step* to the U.S. export strategy. CINTAC strongly supports the need for U.S. demonstration and supply of reliable and affordable technologies for the energy transition. To export safe and secure civil nuclear alternatives to the global market, the U.S. needs to demonstrate its commitment to deployment in the domestic market. **Hence, CINTAC recommends that the U.S. Administration champion and persevere through the funding and deployment of nuclear technology domestically as the means to be credible in our civil nuclear export strategy.**

The U.S. government has joined the collective goal to triple nuclear energy by 2050. Demonstrating this commitment through domestic deployment puts us in a position to export the technology to international partners. The only way to meet this mid-century goal, or any other future energy goal that relies on nuclear energy, is to accelerate deployment of nuclear plants and their supporting supply chains in the U.S. and internationally. This will require working within the Department of Commerce and with the executive branch and Congress on the following enabling support strategies:

- **Collaborating with energy-intensive industries and facilitating the formation of off-taker consortia:** The Department of Commerce can leverage existing connections and committees¹ that convene energy-intensive industries that are strategic to maintain onshore and are committed to carbon-free energy to support chip fabrication facilities, data centers, steel mills, etc. The recently announced Google-Microsoft-Nucor advanced clean energy initiative² demonstrates interest among off-takers to partner in pooling risk and aggregating capital towards the buildout of innovative nuclear energy technologies. Utilizing its networks with key sectors that are potentially interested in small modular and advanced reactors, the Department of Commerce can catalyze the formation of such partnerships/consortia to help clear initial barriers related to first-of-a-kind (FOAK) deployment.

¹ <https://www.trade.gov/itac-committees>

² <https://nucor.com/newsroom/google-microsoft-and-nucor-announce-initiative>

- **Advancing federal policy solutions to mitigate FOAK risks:** Advanced nuclear technologies, such as small modular reactors (SMRs) and advanced reactors, represent a potential competitive edge for U.S. industry in overseas markets for decades to come. While there is interest in deploying these technologies domestically, uncertainties in FOAK costs and risks present formidable hurdles, even for well-capitalized consortia. The Secretary can work with the interagency and Congress to advance federal solutions, such as establishment of completion insurance or cost stabilization programs, to address and mitigate FOAK concerns among potential off-takers.
- **Grant funding:** Continued federal grant funding will be needed to deploy FOAK SMRs and Advanced Reactors in the U.S. While these funds have been, and will continue to be, administered through the Department of Energy, support for these grants from the Secretary of Commerce and other senior members of the administration to Congress sends an important signal.

We see energy-intensive industries, including those crucial to U.S. national interests, gravitating to where there is reliable, affordable power. Countries are increasingly transitioning to clean energy sources to address climate change and energy security. Nuclear energy is the only baseload source of carbon-free power that can scale to meet the growing demand from these industries. Domestic nuclear deployment is essential to onshoring critical, energy-intensive sectors, and reinforcing a robust nuclear supply chain at home will better serve international markets.

We must retire FOAK cost and schedule risks that prevent utilities and other consumers of power and heat from committing to deployment. We need a commitment by both government and industry to deploy real nuclear energy facilities with reliable schedules and budgets in the near-term. The goal cannot be met by industry alone, and the Secretary, as a senior leader in the U.S. government with the stature and access to leadership, can work with industry and champion an ambitious strategy for new nuclear domestically.

CINTAC believes that these recommendations will help ensure that we lead by example with our own deployments of new nuclear technology that serves to advance the energy transition and energy security, placing the U.S. industry in a much stronger position to compete globally.

Sincerely and on behalf of the members of the CINTAC,

Letter on Workforce Development

Dear Secretary Raimondo:

The Civil Nuclear Trade Advisory Committee (CINTAC) appreciates your leadership and support for America's civil nuclear energy. The Biden Administration's leadership shown in this area helps strengthen our economy, achieve U.S. climate change and clean energy priorities, bolsters U.S. competitiveness overseas, creates high-paying jobs, and strengthens U.S. energy and national security.

The rapid pace of technological advancement, coupled with the changing nature of work, has created a pressing need for a skilled and adaptable nuclear workforce. To ensure the continued prosperity and competitiveness of our nation, it is crucial that we invest in comprehensive nuclear workforce development programs that address the evolving needs of employers and workers alike.

Firstly, we emphasize the importance of accessible and affordable education and training opportunities. Many individuals, particularly those from disadvantaged backgrounds, face barriers to accessing quality education and training programs. By prioritizing funding for scholarships, grants, and vocational training initiatives, we can empower individuals to acquire the skills and knowledge necessary to thrive in the modern nuclear job market.

Furthermore, we draw your attention to the need for accurate nuclear industry data collection and analysis to inform nuclear workforce development policies, initiatives, and individuals. By gathering and analyzing accurate data on labor market trends, skills gaps, and future job prospects, policymakers can make informed decisions and allocate resources effectively. Additionally, this data can empower individuals to pursue a rewarding and fulfilling career in the nuclear industry.

In this regard, the CINTAC offers the following suggestions for your consideration:

1. Collaboration with the Department of Labor to increase the funding and expand the programs for skilled craft labor training to support the growing need in the nuclear industry for domestic and international deployment of small modular reactors and microreactors: The expanded program would support programs at vocational schools and community colleges. It is crucial to invest in accessible and affordable nuclear education and training opportunities. By providing financial support to individuals from disadvantaged backgrounds, promoting scholarships and grants, and expanding vocational training initiatives, we can ensure that everyone has equal access to quality education and training.

With the growth of energy hungry industries such as Artificial Intelligence and Chip Manufacturing, a workforce to support the timely construction and operation of domestic small modular reactors is essential to the growing competition for clean, secure energy in the US. The US will produce 20% of the world's leading-edge chips by the end of the decade. Semiconductor fabrication facilities are among the most energy-intensive facilities in the world. The process of producing silicon for chips requires high temperatures, with most plants using 11–13 kWh of electrical energy per kilogram of silicon produced.

2. Promote accurate data collection and analysis: Comprehensive data on nuclear labor market trends, skills gaps, and future job prospects is essential for informed decision-making. We urge action to address the outdated information present in the Department of Labor's Occupational Outlook Handbook (OOH)

regarding nuclear-related jobs. The OOH serves as a critical resource for individuals seeking information on various occupations, and it is crucial that it provides accurate and reliable data.

Currently, the OOH contains information that is outdated, which can have serious consequences for those considering careers in the nuclear industry. This outdated information not only misguides individuals but also fails to accurately represent the potential opportunities and benefits associated with nuclear-related jobs. For example, the OOH currently states that: "Employment of nuclear engineers is projected to show little or no change from 2022 to 2032." However, the nuclear industry is preparing to deploy a variety of new technology designs within the decade with demand in the US forecasted to double or even triple current nuclear power generation. The US Department of Energy Liftoff to Commercialization Report published in 2023 predicts that 236,000 workers will be needed to manufacture, construct, and operate advanced reactors through 2035 and that the current workforce could triple to more than 375,000 direct employees by 2050.

It is imperative that the Department of Labor revises and updates the OOH to accurately reflect the current state of the nuclear industry. By doing so, aspiring professionals will have access to reliable information that will enable them to make informed decisions about their career paths. Additionally, addressing this issue will contribute to fostering a more positive perception of nuclear-related jobs and their vital role in our nation's energy sector.

In conclusion, we urge you to prioritize nuclear workforce development as a critical national agenda. By investing in accessible training and utilizing data-driven approaches, we can ensure that our nuclear workforce remains competitive, resilient, and adaptable in the face of growing energy needs.

Thank you for your attention to this matter. I look forward to your leadership and support in addressing the nuclear workforce development needs in the United States.

Sincerely and on behalf of the members of the CINTAC,