

## **NATIONAL INFRASTRUCTURE ADVISORY COUNCIL**

### **QUARTERLY BUSINESS MEETING**

December 10, 2020

#### **CALL TO ORDER AND OPENING REMARKS; APPROVAL OF MINUTES**

Ms. Rachel Liang, Designated Federal Officer, President's National Infrastructure Advisory Council (NIAC), Department of Homeland Security (DHS), opened the NIAC's Quarterly Business Meeting (QBM) for December 10, 2020, and welcomed participants. She then took roll of NIAC members and provided a brief overview of the NIAC's purpose and history. Ms. Liang said that no public comments had been submitted and reminded attendees that written comments could still be accepted and would be provided to NIAC members without alteration. Ms. Liang then turned the meeting over to Ms. Constance Lau, NIAC Chair.

Ms. Lau welcomed the participants and provided a brief summary of the agenda. During the meeting, the council would first hear remarks from Mr. Brian Cavanaugh, Special Assistant to the President and Senior Director for Resilience Policy, National Security Council (NSC), and Mr. Brandon Wales, Acting Director, Cybersecurity and Infrastructure Security Agency (CISA) regarding the Government's ongoing efforts to secure the Nation's critical infrastructure. Next, the council would discuss the Critical Infrastructure Command Center (CICC) Follow-On Analysis and vote on the resulting NIAC report, [\*Actionable Cyber Intelligence: An Executive-Led Collaborative Model\*](#). Finally, the NIAC would receive a status update on the NIAC's current Workforce and Talent Management (WFTM) Study.

Ms. Lau welcomed recent NIAC appointees Mr. David Thomas, Major League Baseball; and Mr. Steve Gatena, PRAY.com. Ms. Lau also thanked outgoing NIAC members Mr. Bob Carr, Ms. Joan McDonald, and Dr. Georges Benjamin, for their service. Acting Director Wales then administered the oath of office to Mr. Thomas and Mr. Gatena.

Ms. Lau introduced Dr. Beverly Scott, NIAC Vice Chair, and asked her to provide opening remarks. Dr. Scott thanked the NIAC members for their contributions to the council's work over the previous months. She added that her participation on the WFTM Study had been especially meaningful.

Ms. Lau asked Mr. Cavanaugh to provide his opening remarks. Mr. Cavanaugh stated that the Administration has a strong commitment to critical infrastructure security and resilience. He highlighted several executive orders (E.O.) the President had signed including: [\*E.O. 13865: Coordinating National Resilience to Electromagnetic Pulses\*](#); [\*E.O. 13905: Strengthening National Resilience Through Responsible Use of Positioning, Navigation, and Timing Services\*](#); and [\*E.O. 13961: Governance and Integration of Federal Mission Resilience\*](#). Mr. Cavanaugh stated that he had reviewed the contents of *Actionable Cyber Intelligence: An Executive-Led Collaborative Model* and thanked the CICC Working Group for developing it. He added that he looked forward to hearing from the WFTM working group.

Ms. Lau then asked Acting Director Wales to give his opening remarks. Acting Director Wales stated that the change in leadership within CISA had not changed its mission or focus

## The President's National Infrastructure Advisory Council

*Approved Meeting Minutes for the December 10, 2020 Quarterly Business Meeting*

on engaging with industry partners. He said he was looking forward to discussing *Actionable Cyber Intelligence: An Executive-Led Collaborative Model* and how CISA can begin to implement some of its recommendations. Acting Director Wales added that he was interested in hearing the update from the WFTM working group, noting that maintaining a qualified workforce continues to be a top challenge for all critical infrastructure sectors. Regarding current CISA priorities, Acting Director Wales stated that the agency continues to focus on the Coronavirus pandemic (COVID-19). He noted that CISA has been working with the Center for Disease Control to develop essential critical infrastructure workers guidance for COVID-19 vaccine prioritization.

Ms. Lau asked the NIAC members if they had any corrections or objections to the draft September 17, 2020 NIAC QBM minutes. The council members expressed no concerns and the minutes were approved.

### CRITICAL INFRASTRUCTURE COMMAND CENTER FOLLOW-ON ANALYSIS DISCUSSION AND DELIBERATION

Ms. Lau introduced the co-chairs of the NIAC CICC Working Group: Mr. Richard H. Ledgett, Jr., NIAC member, and Mr. J. Rich Baich, NIAC member. She asked them to provide an overview of the working group's findings and recommendations.

Mr. Baich said that the NSC tasked the NIAC in February 2020, to provide additional detail on the CICC concept that the council had recommended in its 2019 report, [\*Transforming the U.S. Cyber Threat Partnership\*](#). He noted that the NSC specifically asked the NIAC to demonstrate the value of the CICC, recommend an approach to making it operational, and address any challenges to achieving this goal.

Mr. Ledgett summarized the three foundational principles of the CICC concept. First, it will complement, not replace, existing public-private information and intelligence sharing efforts. Second it must be led by the private sector to be successful. Third, it will collaborate with the intelligence community (IC) to provide stakeholders guidance and tools to mitigate cyber threats in real-time.

Mr. Baich remarked that existing public-private intelligence sharing efforts provide few opportunities for industry and Government to collaborate on cyber threat intelligence analysis. As a result, industry often lacks key information to accurately assess the danger these threats pose. Mr. Ledgett explained that the CICC would address these issues by providing a venue for Government and industry experts to share intelligence, identify potential threats, and develop tools to mitigate them. Mr. Baich added that this collaborative model would allow Government and industry to improve threat intelligence analysis and expedite their response to serious threats.

Mr. Baich and Mr. Ledgett then outlined the CICC's proposed capabilities:

1. Provide direct, real-time collaboration between intelligence analysts and private sector experts;
2. Develop innovative mitigation measures by leveraging the combined expertise of Government and industry partners;

## **The President's National Infrastructure Advisory Council**

### *Approved Meeting Minutes for the December 10, 2020 Quarterly Business Meeting*

3. Assess how threats or vulnerabilities will impact the broader critical infrastructure ecosystem;
4. Monitor threat activity on infrastructure to determine if a specific sector or system is being targeted; and
5. Allow the IC to quickly share threat intelligence with industry.

Mr. Baich identified several requirements for making the CICC effective. Senior industry and Government managers, cyber experts, and intelligence analysts would need to co-locate to expedite their work. CICC staff would need to engage external experts to rapidly develop means to mitigate threats. The IC would need to explicitly identify the private sector as a customer.

Mr. Ledgett noted that the CICC will face challenges to success. These may include difficulty in obtaining sharing agreements from all relevant partners as well as finding a facility where both Government and industry could securely access their networks. He added that the President would need to authorize the IC to share intelligence with private sector entities. Mr. Ledgett also conceded that there may be other challenges the CICC working group could not anticipate.

Mr. Baich and Mr. Ledgett then outlined the report's recommendations:

1. The President should direct Federal agencies to support the efforts of the energy, financial services, and communications sectors to establish the CICC;
2. The IC and other relevant Federal agencies should co-locate the necessary Government staff to enable direct coordination with industry;
3. Congress and the President should work to authorize intelligence sharing with critical infrastructure companies; and
4. Once it is operational, CICC leadership should deliver a report to the NSC and the NIAC demonstrating its impact on the threat landscape and identify any gaps in resources, direction, or authorities.

Mr. Baich and Mr. Ledgett then opened the floor for questions and comments. Several meeting participants expressed their support for the recommendations, specifically noting the benefits the CICC would provide to both Government and industry. Mr. Mike Wallace, NIAC member, noted that the emphasis on private sector leadership will be key to making the CICC successful. Ms. Ola Sage, NIAC member, added that including small and medium sized businesses as active participants in the CICC would also be beneficial.

Mr. Ben Fowke, NIAC member, asked how the CICC will differ from existing public-private information sharing organizations. Mr. Bill Fehrman, NIAC member, stated that the intent of the CICC is to complement existing organizations like the Analysis & Resilience Center for Systemic Risk (ARC). He explained that organizations like the ARC focus on strategic, long-term risks. In contrast, the CICC will serve a tactical role by developing actionable mitigation techniques in response to immediate threats. Mr. Fowke asked how the CICC will be funded. Mr. Baich replied that initial funding would likely come from the private sector, similar to the ARC's funding model. Over time, the Government may provide additional lines of funding as well.

## The President's National Infrastructure Advisory Council

*Approved Meeting Minutes for the December 10, 2020 Quarterly Business Meeting*

Mr. William Terry Boston, NIAC member, asked if the CICC would incorporate the tools and best practices developed by the financial sector and energy sector information sharing organizations. Mr. Wallace responded that the CICC would leverage existing information sharing tools to improve its own capabilities. Mr. Baich added that, eventually, the CICC would support all of the critical information sectors.

Ms. Lau asked what private-sector assets would be needed to establish the CICC and if industry had any interest in the effort. Mr. Baich replied that the CICC working group believes industry could leverage existing infrastructure to quickly establish the CICC and make it operational. He added that there is already a large amount of industry support for the concept, which will continue to increase once companies see the value that the CICC can provide. Ms. Lau then asked Mr. Cavanaugh and Acting Director Wales what the IC's response to the concept would be and if the President would adopt the recommendations. Mr. Cavanaugh replied that he felt the prospects were good that the CICC would be established but cautioned that the proposal would need to go through the NSC's standard policy process before the Administration could take any action. Acting Director Wales noted that CISA prioritizes engagement and collaboration with industry organizations. He added that the CISA joint cyber planning office, included in [H.R.6395: National Defense Authorization Act for Fiscal Year 2021](#), could be a natural touch point for the agency to work with the CICC.

Ms. Lau thanked Mr. Cavanaugh and Acting Director Wales for their comments and asked the participants if they had any further comments or questions. Hearing none, Ms. Lau asked the NIAC for a vote on *Actionable Cyber Intelligence: An Executive-Led Collaborative Model* which the members unanimously approved.

Ms. Lau thanked everyone for their support of the study.

### WORKFORCE AND TALENT MANAGEMENT STUDY UPDATE

Ms. Lau asked Dr. Scott and Ms. Jan Allman, NIAC members and WFTM Co-Chairs, to provide an update on the WFTM study.

Ms. Allman stated that the NSC had tasked the NIAC to conduct an in-depth study on the challenges facing the critical infrastructure workforce and how those challenges affect national security. She explained that the report would include both near-term and long-term recommendations for improving worker readiness. She also noted that the report would limit its focus to four critical infrastructure sectors: (1) energy; (2) water and wastewater systems; (3) transportation systems; and (4) communications; but that the recommendations would hopefully be applicable to all critical infrastructure sectors.

Ms. Allman added that the WFTM working group would use the next phase of the study to examine how Federal policies are affecting the workforce. They are also reviewing the impact that issues such as cybersecurity; education and training; artificial intelligence; and improved credentialing have on worker readiness. The WFTM working group would also build on previous studies conducted by the National Security Telecommunications Advisory Committee (NSTAC).

## The President's National Infrastructure Advisory Council

*Approved Meeting Minutes for the December 10, 2020 Quarterly Business Meeting*

Ms. Allman outlined the study's four framing questions:

1. What are the major trends or changes currently transforming the workforce and what steps need to be taken to prepare for these changes?
2. How do we ensure critical infrastructure workers have the skills needed to operate, repair, or restore infrastructure in an emergency and in steady state?
3. What are some of the ways to train and/or develop the needed skills in the existing workforce?
4. How can stakeholders shape the workforce and education systems to meet the demand for certain skillsets to operate critical infrastructure?

Ms. Allman stated that, since the September 2020 NIAC QBM, the WFTM working group had made significant progress with the study. The group's efforts included conducting in-depth interviews with multiple industry leaders and subject matter experts (SME). They had also examined the current state of the critical infrastructure workforce, reviewed workforce-related legislation in Congress, and assessed the results of prior workforce development recommendations. Finally, the WFTM working group had also convened a separate workforce SME study group to support the WFTM working group's efforts and provide expert analysis. Ms. Allman then turned the floor over to Dr. Scott.

Dr. Scott summarized the WFTM working group's findings, using the study's framing questions as themes. She stated that industry is beginning to understand the importance of the critical infrastructure workforce, noting this is partly due to impact of COVID-19. She said that improving worker readiness requires job creation and retention; increased diversity, equity, and inclusion; expanded opportunities; and a continued focus on strengthening national security, resilience and competitiveness.

Dr. Scott explained that there is a significant workforce shortage across all the critical infrastructure sectors. This problem is primarily the result of worker retirements, a lack of awareness of existing career opportunities, and an inadequate pipeline of qualified candidates. She said this is compounded by the digital transformation, which has dramatically changed the knowledge and skillset requirements for the workforce. Digital literacy and an understanding of cybersecurity are now essential to support the new technologies that are changing the critical infrastructure landscape. Dr. Scott noted that the NSTAC, in the [\*NSTAC Letter to the President on Communications Resiliency\*](#), had found that many rural and urban populations do not have access to broadband internet. She stated that resolving this digital divide is critical to ensuring continued workforce development.

Dr. Scott noted that potential employees are often unaware of available critical infrastructure jobs and that the workforce continues to lack the diversity and inclusivity needed to reflect the communities they serve. She said that critical infrastructure companies would benefit from lowering the educational requirements they set for job applicants as many frontline responders do not require a college degree to do their jobs. Industry should also work with groups like the Second Chance program and be more open to hiring non-violent felons.

Dr. Scott stated that ensuring critical infrastructure workers have the skills they need to operate or restore infrastructure in an emergency will require a business-minded approach. Most importantly, industry needs better data-supported tools to assess and forecast workforce needs. Additionally, Government and industry must work together to identify and develop

## **The President's National Infrastructure Advisory Council**

*Approved Meeting Minutes for the December 10, 2020 Quarterly Business Meeting*

cross-sector programs, policies, and best practices. She noted that mutual aid agreements designed to address emergency situations could also be expanded to include recognizing worker certifications and credentials.

Dr. Scott outlined several things that Government and industry can do to ensure the existing critical infrastructure workforce has adequate training and skills to maintain readiness. She stated that skill level requirements for critical infrastructure jobs need to be standardized nationally. These standards should also be incorporated into career roadmaps to help workers understand what they need to do to advance their careers. Companies also need to continue investing in workforce training. Dr. Scott noted that apprenticeship programs, public-private rotations, and temporary deployments are a valuable way to acquire new skills and gain experience. She added that the workforce SME study group has been tasked to research how other countries are addressing these issues, particularly with regard to apprenticeship programs and performance metrics.

Finally, Dr. Scott reviewed how stakeholders can shape the education system to meet the demand for a skilled critical infrastructure workforce. She stated that systemic change will be needed to expand the talent pool and develop a more diverse, equitable, and inclusive workforce. Such changes will likely require legislative and regulatory action along with new incentives for industry. Additionally, workforce development needs to be addressed as a life-long process with learning and training opportunities made available to all age groups.

Dr. Scott thanked the working group and the NIAC for their support. She then turned the meeting back to Ms. Allman.

Ms. Allman opened the floor to the participants to ask questions or comment on the study. Mr. Boston said the WFTM working group should also consider veterans as a potential source for workers, noting their unique skillsets are often applicable to critical infrastructure jobs. Dr. Scott and Ms. Allman agreed, and said they would be sure to address veterans in the report. They added that the report will also consider how science, technology, engineering, and mathematics education programs, as well as youth groups such as Scouting USA, can support workforce development.

Ms. Lau said she will be interested in learning what workforce issues are common across all critical infrastructure industries and what issues are limited to specific sectors. She added that the WFTM working group should take care to ensure the report's recommendations are actionable and focused on the previously identified critical infrastructure sectors. Dr. Scott agreed that the recommendations should be limited and actionable. Mr. Cavanaugh thanked the WFTM working group for their efforts, and said he appreciated that the NIAC agreed to narrow the scope of the study to four critical infrastructure sectors. He suggested that the report include examples of specific workforce development policies that have already proven to be effective elsewhere. He noted that such examples would provide the NSC a model to build policy around. Mr. Wales suggested that the report highlight any innovative ways that Government and the private sector can work together to improve workforce capabilities as that would help CISA focus its efforts.

## **The President's National Infrastructure Advisory Council**

*Approved Meeting Minutes for the December 10, 2020 Quarterly Business Meeting*

Ms. Allman and Dr. Scott thanked the participants for their comments. Ms. Allman added that the WFTM working group is looking for additional NIAC members to participate in the study.

### **CLOSING REMARKS AND ADJOURNMENT**

Ms. Lau asked Acting Director Wales to provide his closing remarks. Acting Director Wales thanked the NIAC for their contributions in helping to ensure the security and resilience of the Nation's critical infrastructure. He mentioned that the NIAC has produced more than 30 reports over the past two decades. He said these reports had directly contributed to Government policies such as: [Presidential Policy Directive 21: Critical Infrastructure Security and Resilience](#), and [E.O. 13636: Improving Critical Infrastructure Cybersecurity](#). He stated that he wants to ensure that every report the NIAC produces has a measurable impact on CISA operations and benefits Government and the policymaking community. He concluded that he is looking forward to seeing what studies and ideas NIAC develops with the new Administration. Acting Director Wales then turned the meeting over to Mr. Cavanaugh.

Mr. Cavanaugh stated that NSC is committed to fostering a close dialog with the NIAC, and working to ensure the NIAC's recommendations are translated to Government policies that build a stronger, more resilient country. He thanked the NIAC for their work and turned the meeting back to Ms. Lau.

Ms. Lau thanked everyone for joining the final QBM of the year. She reiterated that the WFTM Study Group is looking to add members if anyone would be interested in joining the study. Finally, she mentioned that the NIAC has been asked to provide input on potential future studies and asked NIAC members to consider any topics they think may be of interest. Ms. Lau then adjourned the meeting.

## The President's National Infrastructure Advisory Council

Approved Meeting Minutes for the December 10, 2020 Quarterly Business Meeting

### DECEMBER 10, 2020 NIAC QBM PARTICIPANTS LIST

<u>NAME</u>	<u>ORGANIZATION</u>
<b>NIAC MEMBERS</b>	
Ms. Jan Allman	Fincantieri Marinette Marine
Mr. Neil Alpert	Potomac Management
Mr. Rich Baich	AIG
Mr. Rand Beers	Former Acting Secretary of the U.S. Department of Homeland Security
Mr. Terry Boston	Terry Boston, LLC.
Mr. Al Edmonds	Logistics Applications
Mr. Bill Fehrman	Berkshire Hathaway Energy
Mr. Ben Fowke	Xcel Energy
Mr. Steve Gatena	PRAY.com
Ms. Peg Grayson	E2M, LLC.
Mr. George Hawkins	District of Columbia Water and Sewage Authority
Mr. Tim Horne	Tim Horne, LLC.
Ms. Rhoda Mae Kerr	Fort Lauderdale Fire Department
Ms. Connie Lau	Hawaiian Electric Industries, Inc.
Mr. Rick Ledgett	The Ledgett Group, LLC.
Mr. Randy Lowell	Willoughby & Hoefler
Dr. Kevin Morley	American Water Works Association (AWWA)
Mr. Carl Newman	Glendale Municipal Airport
Ms. Kirstjen Nielsen	Lighthouse Strategies, LLC.
Mr. Keith Parker	Goodwill Industries of North Georgia
Ms. Ola Sage	CyberRx
Dr. Beverly Scott	Beverly Scott Associates, LLC.
Mr. David Thomas	Security & Ballpark Operations for Major League Baseball
Mr. Michael Wallace	MJWallace Associates, LLC.
Mr. Daniel Walsh	CACI

### NIAC SUBSTANTIVE POINTS OF CONTACT

Mr. Jeffery Baumgartner	Supporting Mr. Bill Fehrman
Mr. Colton Ching	Supporting Ms. Connie Lau
Ms. Kristina Dorville	Supporting Mr. Rich Baich
Ms. Athena Gilliam	Supporting Ms. Rhoda Mae Kerr
Mr. Frank Honkus	Supporting Mr. Michael Wallace
Mr. Nathaniel Millsap	Supporting Ms. Jan Allman
Mr. Frank Prager	Supporting Mr. Ben Fowke
Mr. Nathaniel Smith	Supporting Dr. Beverly Scott

### GOVERNMENT REPRESENTATIVES

Ms. Sue Armstrong	Department of Homeland Security
Mr. Dwayne Baker	Department of Homeland Security
Ms. Sandra Benevides	Department of Homeland Security
Mr. Scott Breor	Department of Homeland Security
Mr. Chris Cannizzaro	National Security Council



## **The President's National Infrastructure Advisory Council**

*Approved Meeting Minutes for the December 10, 2020 Quarterly Business Meeting*

Mr. Brian Cavanaugh	National Security Council
Ms. Alaina Clark	Department of Homeland Security
Ms. DeShelle Cleghorn	Department of Homeland Security
Mr. Matthew Eggers	Chamber of Commerce
Ms. Deirdre Gallop-Anderson	Department of Homeland Security
Mr. Robert Greene	Department of Homeland Security
Ms. Julia Hanson-Takyi	Department of Homeland Security
Mr. Steven Harris	Department of Homeland Security
Mr. Matt Hayden	Department of Homeland Security
Mr. Brandon Hoel	Department of Homeland Security
Ms. Helen Jackson	Department of Homeland Security
Mr. Stephen Jamrozy	Department of Homeland Security
Mr. Bob Kravinsky	Department of Defense
Ms. Rachel Liang	Department of Homeland Security
Mr. Enrique Matheu	Department of Homeland Security
Ms. Jennifer Mergy	National Security Council
Ms. Jeanie Moore	Department of Homeland Security
Ms. Renee Murphy	Department of Homeland Security
Mr. Brian Scott	National Security Council
Ms. Traci Silas	Department of Homeland Security
Mr. Brandon Wales	Department of Homeland Security

### **PUBLIC PARTICIPANTS AND OTHER ATTENDEES**

Ms. Mariam Baksh	Nextgov
Mr. Georges Benjamin	American Public Health Association
Mr. Sam Chanoski	Idaho National Laboratory
Mr. Jack Clark	Transport Center
Ms. Stephanie Curry	Booz Allen Hamilton, Inc.
Mr. Turahn Dorsey	Post Gov
Ms. Michelle Guido	Southern Company
Mr. Joseph Kane	Brookings
Ms. Laura Karnas	Booz Allen Hamilton, Inc.
Ms. Adrienne Lotto	New York Power Authority
Mr. Nitin Natarajan	E3/Sentinel
Mr. Tom Patterson	UNISYS
Mr. Mark Rockwell	Federal Computer Week
Ms. Glenda Scarbrough	Pacific Gas and Electric Company
Mr. Ty Schieber	Clarity Enterprise Solutions
Mr. Eric Seleznow	Jobs For The Future, Inc.
Ms. Katie Spiker	National Skill Coalition
Ms. Adie Tomer	Brookings
Mr. Andy Van Kleunen	National Skills Coalition
Ms. Rebecca Winkel	API
Mr. John Young	The American Waterways Operators
Ms. Afia Zakiya	Congressional Black Caucus Foundation

**The President's National Infrastructure Advisory Council**

*Approved Meeting Minutes for the December 10, 2020 Quarterly Business Meeting*

**CONTRACTOR SUPPORT**

Ms. Sarah Beckhart	Nexight
Mr. Harin Contractor	Nexight
Mr. Anthony D'Andrea	Nexight
Ms. Jessica Eadie	STI Technologies
Mr. Gabriel Henderson	Nexight
Ms. Lindsay Kishter	Nexight
Ms. Audrey Lievents	Nexight
Mr. Matt Pembleton	Nexight
Mr. Barry Skidmore	Insight Technology Solutions
Ms. Beth Slaninka	Nexight