

NATIONAL INFRASTRUCTURE ADVISORY COUNCIL

QUARTERLY BUSINESS MEETING AGENDA

December 1, 2015

12:30 PM – 3:30 PM EST

Navy League Building

2300 Wilson Blvd. Arlington, VA 22201

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| I. OPENING OF MEETING | <i>Lisa Barr</i> , Designated Federal Officer (DFO), National Infrastructure Advisory Council (NIAC), Department of Homeland Security (DHS) |
| II. ROLL CALL OF MEMBERS | <i>Lisa Barr</i> , DFO NIAC, DHS |
| III. OPENING REMARKS AND INTRODUCTIONS | <i>Constance H. Lau</i> , NIAC Chair

<i>Caitlin Durkovich</i> , Assistant Secretary for Infrastructure Protection, DHS (invited)

<i>Suzanne Spaulding</i> , Under Secretary, National Protection and Programs Directorate (invited)

<i>Stephanie Morrison</i> , Director, Critical Infrastructure Protection Policy, National Security Council (invited) |
| IV. APPROVAL OF SEPTEMBER 2015 MINUTES | <i>Constance H. Lau</i> , NIAC Chair |
| V. STATUS OF PAST NIAC RECOMMENDATIONS | <i>Lisa Barr</i> , DFO NIAC, DHS |
| VI. WATER RESILIENCE IN POST EVENT RECOVERY | <i>Kevin Donnelly</i> , NYC Department of Design and Construction |

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**VII. STATUS UPDATE ON WATER
RESILIENCE WORKING GROUP**

Jack Baylis, Working Group Chair

**VIII. PUBLIC COMMENT: TOPICS
LIMITED TO AGENDA TOPICS
AND PREVIOUSLY ISSUED
NATIONAL INFRASTRUCTURE
ADVISORY COUNCIL STUDIES**

Lisa Barr, DFO, NIAC, DHS

**IX. CEO REPORT
RECOMMENDATION
CLARIFICATION DISCUSSION
AND DELIBERATION**

Michael Wallace, Working Group Chair

X. CLOSING REMARKS

Constance H. Lau, NIAC Chair

*Caitlin Durkovich, Assistant Secretary for
Infrastructure Protection, DHS*

*Stephanie Morrison, Director Critical
Infrastructure Protection Policy, NSC*

XI. ADJOURNMENT

Constance H. Lau, NIAC Chair

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NIAC MEMBERS PRESENT IN ARLINGTON:

Mr. Jack Baylis; General Albert Edmonds (ret), Ms. Margaret Grayson, Ms. Constance Lau, Ms. Joan McDonald, Mr. James Murren, Dr. Beverly Scott, Mr. Michael Wallace

NIAC MEMBERS ATTENDING VIA CONFERENCE CALL:

Mr. Thomas Noonan, Mr. Bruce Rohde

MEMBERS ABSENT:

Mr. David Bronczek, Mr. Philip Heasley

SUBSTANTIVE POINTS OF CONTACT PRESENT IN ARLINGTON:

Mr. Richard Houck with Ms. Constance Lau,

SUBSTANTIVE POINTS OF CONTACT OBSERVING VIA CONFERENCE CALL:

OTHER DIGNATRIES PRESENT:

Ms. Caitlin Durkovich, IP, DHS; Ms. Stephanie Morrison, NSC; Mr. Eric Letvin, NSC

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I. OPENING OF MEETING

*Lisa Barr, Designated Federal Officer (DFO),
National Infrastructure Advisory Council
(NIAC), Department of Homeland Security
(DHS)*

Ms. Barr introduced herself as the Federal Designated Officer for the NIAC, acting by appointment of the Under Secretary of the National Protection and Programs Directorate, which is part of the Department of Homeland Security. She asked for everyone to mute or silence their phones. She then welcomed the members of the NIAC who were at the meeting in person, as well as those on the phone, in addition to other representatives of the Federal government, guest speakers and members of the press and public in attendance. She informed the members of the public that the NIAC is a presidential advisory committee which was created by Executive Order 13231, most recently amended by EO 13652. The NIAC is composed of members appointed by the President and includes senior level expertise across the critical infrastructure sectors. This council provides the President, the Secretary of the Department of Homeland Security, and other relevant agency leadership with advice on the security of critical infrastructure. During its more than 10 year history, the Council had conducted and completed more than 27 studies, all of which have been made available to the public. These studies have focused on matters ranging from cooperation and partnership of the public and private sectors, to policies and strategies involving risk assessment, information sharing and critical infrastructure protection and resilience affecting the national and economic security of the United States.

II. ROLL CALL OF MEMBERS

Lisa Barr, DFO NIAC, DHS

Ms. Barr then informed the members she would now call the roll for the benefit of the Council's record. The roll call can be seen on Page 3. After taking the roll, Ms. Barr reminded the Members that this meeting is open to the public and accordingly, the Members should remember to exercise care when discussing potentially sensitive information. Additionally, she said she would like to note the floor will be open for pre-registered public comments, before the close of the meeting today. The comments must be relevant to the listed agenda items or other topics that have been studied by the Council in the past and are limited to three minutes per person. With her authority as DFO, she called to order this NIAC meeting, the fourth in 2015. She then introduced the NIAC Chair, Ms. Constance Lau and the Vice Chair, Dr. Beverly Scott. She then turned the meeting over to Ms. Lau for the next two items on the agenda. As DFO, she said she will return later for the public comments session.

II. OPENING REMARKS AND INTRODUCTIONS

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Ms. Lau thanked Ms. Barr for the introduction. She welcomed everyone to the National Infrastructure Advisory Council meeting, which is the last meeting of the year. She thanked everyone in DC who braved the weather to get there. She also thanked Mr. Rohde and Mr. Noonan for joining by phone. She asked all the members to use the microphones so they can hear and engage in discussion. She then welcomed Ms. Durkovich, the Assistant Secretary of Infrastructure Protection with the Department of Homeland Security.

III. APPROVAL OF SEPTEMBER 2015 MINUTES

Constance H. Lau, NIAC Chair

Ms. Lau then moved for an approval of the minutes from the September 2015 QBM, unless any of the members had any changes. Mr. Baylis seconded. Ms. Lau asked all in favor to say “aye”. There was a round of “ayes”. She then asked all not in favor to say “no”. No one said “no”. Ms. Lau approved the minutes.

IV. STATUS OF PAST NIAC RECOMMENDATIONS

Lisa Barr, DFO NIAC, DFO

Ms. Lau then handed the meeting to Ms. Barr to give a report on past NIAC recommendations. Ms. Barr thanked Ms. Lau. Ms. Barr said that DHS is currently reviewing NIAC recommendations going back to 2009. There are roughly 130 separate recommendations that are being reviewed. They are working with the National Security Council (NSC) Staff and the Federal Senior Leadership Council (FSLC), DHS over the next several months will work with the Departments and Agencies to document the decisions made to address the recommendations. It is the intent that prior to the deliberations of the 2016 water study; it will be possible to provide a more robust update to the NIAC members on the progress against those recommendations. She then turned the meeting back to the NIAC Chair.

V. OPENING REMARKS AND INTRODUCTIONS, CONTINUED.

Constance H. Lau, NIAC Chair

*Caitlin Durkovich, Assistant Secretary for
Infrastructure Protection, DHS (invited)*

*Suzanne Spaulding, Under Secretary, National
Protection and Programs Directorate (invited)*

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Stephanie Morrison, Director, Critical Infrastructure Protection Policy, National Security Council (invited)

Ms. Lau then asked Ms. Durkovich if she had any opening and introductory remarks. Ms. Durkovich said it was wonderful to be there. She had just come from the Coast Guard where they were discussing Global Positioning Systems. She said that this NIAC meeting is important and she is looking forward to the agenda. She said she would like to start with a thank you to all the members for their time and extraordinary effort to help the government think through important issues to the nation. Their recommendations are very important and provide a path forward for the Administration in terms of what priorities they focus on. She then welcomed Ms. Joan McDonald, the newest member of the NIAC. She said she is looking forward to hearing the presentations around the Water Sector Resilience Study. She said she wanted to specifically thank General Edmonds, Ms. Grayson, Mr. Murren, Ms. McDonald, Dr. Scott and Mr. Baylis for their work on this effort. She said she is also anticipating the continued discussion of the CEO study and talking about the relationships with the C-Suite. It is incredibly important. She said clearly this group is reflective of why they need to build those relationships and they have seen that over the past several years the coming together of the Electric Subsector Coordinating Council and all the great work that has happened there, and even recently the meeting of GridEx and having CEOs involved in the effort of securing the nation's infrastructure is critical. She said they have given the CEO Working Group some questions and she understood that they were able to go back to the work that they did and pull from that to answer the questions. She said she is looking forward to the presentation on that. She thanked Mr. Wallace for taking the lead on that, as well as General Edmonds and Ms. Grayson, as well as Mr. Kepler, a former NIAC member. She said they all have worked hard on this issue. She said her commitment to the members is that if they can get industry to the table, then they will have a very willing partner in government, just as the Electricity Subsector did.

Ms. Durkovich said the other thing she would like to touch upon is the National Protection and Programs Directorate transformation. The NIAC was sent a letter to explain what is going on with the Directorate. The Directorate is nearly 10 years old. There are over 3500 employees. That is in part because of the mission to protect Federal buildings in addition to all the work that they do with owners and operators of infrastructure outside of the beltway. She said it is time for NPPD to become one of DHS' operational components. It is focused on three key mission areas, cybersecurity, response and mitigation; infrastructure security (helping partners manage physical and cyber risk in an integrated approach). The transformation is designed to help focus in on each of those operational missions to ensure better unity of effort, to help find some efficiencies, and it is equally important to think about where the customers are and ensuring the right balance of who is in Washington, DC and who is outside the Beltway. They must make sure they have not only the people to execute the mission, but the resources they need to be supportive. That is where the focus is. She said there are a number of people who have a say in the transformation. Secretary Johnson is supportive. The Office of Management and Budget is supportive. They are currently working with Congress to help them understand what they are doing. She said she thinks one of the best things that will come out of this is a new name. Instead of NPPD, which is

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long winded and hard to explain, they will become the Cyber and Infrastructure Protection Agency or Service. She said she feels it speaks more accurately to what they do. She said they will continue to keep the NIAC apprised of this. She said she feels it is very reflective of the important mission they have in the security and resilience of the nation's infrastructure and how to own and operate it. She said she will be stepping out at 1:00 pm for a call with a member of Congress. She said they remain very vigilant following the attacks in Paris, while there is no specific credible intelligence that would point to a Paris-style attack in the US, they are concerned about copycats, lone offenders and homegrown violent extremism. They are working very closely with soft targets such as restaurants, sports leagues, etc. to make sure they continue to focus on security and it is perfectly balanced with the nature of their operating environment. She will be updating the members of Congress on what they are doing on that front and then she will return to the NIAC meeting. She turned the meeting back to Ms. Lau.

Ms. Lau also welcomed Ms. McDonald to her first official meeting. She also congratulated Ms. Durkovich on the transformation. Ms. Durkovich said they are continuing to work with Congress because congressional approval is needed for much of this. As more clarity and approval comes from Congress, they will work on a timeline. Currently the goal is December, but they will see what happened in the budget. Ms. Durkovich said that is why Undersecretary Spaulding was unable to attend. She is currently at the Capitol speaking with Chairman McCaul who is the head of the authorizing committee. Ms. Lau said she has a great appreciation for what the Federal government has to go through in terms of reorganizing and restructuring and being able to get the job done. She said when coming from the private sector side, where many of the Members are CEOs, they are much more in control of what their corporations can do.

Ms. Lau said they are also going to be welcoming Ms. Stephanie Morrison who is the Director of Critical Infrastructure Policy from the NSC. She will be joining the QBM later, and the meeting may be interrupted later upon her arrival. Ms. Lau said as Ms. Durkovich mentioned, the actual major piece of business is to approve supplemental answers and recommendations from the CEO Engagement Working Group, which was chaired by Mr. Wallace. The NSC had posed additional questions to the NIAC on the report that was delivered out in March. The Working Group came back together to provide supplemental recommendations and clarifications. In addition, the Water Sector resilience study is ongoing and Mr. Baylis will give the report out on the status of where that Working Group is. In addition, as part of that study, they are welcoming Mr. Kevin Donnelly who will be giving a briefing on water resilience in post-event recovery. Mr. Donnelly is from the New York City Department of Design and Construction. Ms. Lau said she believes they are now at the point in the agenda for Mr. Donnelly's report and turned the meeting to Mr. Donnelly.

VI. WATER RESILIENCE IN POST EVENT RECOVERY

Kevin Donnelly, NYC Department of Design
and Construction

Mr. Baylis asked to introduce Mr. Donnelly before he began. He said he first met Mr. Donnelly in New York. At the time Mr. Baylis had six construction crews helping New York Department of Environmental Protection during Superstorm Sandy. Mr. Baylis was impressed by how well Mr. Donnelly managed Mr. Baylis' group and utilized them to help make sure the generators

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were running. He does not believe there were any wastewater spills or water problems through that event. He found out that the Mayor brought Mr. Donnelly in to help him work through the aftermath of Sandy. Mr. Baylis also learned that Mr. Donnelly worked in the aftermath of Hurricane Katrina and also did work in Florida. He has an extensive background in dealing with events. He also has an extensive background in construction and design, therefore Mr. Baylis said he thought Mr. Donnelly would be a good speaker for us. He told Mr. Donnelly it was an honor to have him and thanked him for coming.

Mr. Donnelly said it was his pleasure for the opportunity to speak to the NIAC today about wastewater and water resiliency, specifically what New York has been doing about it. He said the idea of resiliency is broad and extremely relevant to this country's critical water resources. He said he hopes to convey that resiliency is not an end state, but a process and approach. As engineers, planners and policy makers, they must develop an adaptive capacity the ability to rapidly change in response to new risks whether physical security, cyber security or climate change. He said he would be focusing on how New York City is dealing with climate change as a threat to water and wastewater infrastructure. He will provide a brief overview of the water and wastewater infrastructure, climate planning activities, response to certain recent climate events, and how these events modify recent climate planning efforts. Finally there will be some closing thoughts on the challenges ahead.

He said the infrastructure that supplies approximately one billion gallons of water to more than nine million residents, visitors and businesses in New York City is extensive. The NYC watershed extends 125 miles from the city and through three watersheds, Delaware, Catskills, and Croton. The system is comprised of 19 storage reservoirs, 3 controlled lakes, 295 miles of aqueduct and over 7,000 miles of water main. The Delaware and Catskill watersheds are able to meet over 100% of our current demand without filtration. It is a very resilient system. The reservoirs have a capacity sufficient to meet one year of demand without replenishment. The entire system is gravity fed and there is very little pumping required. On the wastewater side, there are over 7,400 miles of combined sanitary storm sewers and 96 pump stations that go to 14 water treatment plants, 1.3 billion gallons of wastewater is treated each day. The capacity to treat twice that flow under wet water conditions is available in order to protect the water quality of the receiving waters, which are surrounded by the Long Island Sound, The East River, and Jamaica Bay.

Mr. Donnelly said for them, climate planning is not new. Since 2007, the city has been proactive in trying to understand the implications of climate change, how climate risk can impact water and wastewater infrastructure. The focus on climate change planning continues under the leadership of Mayor DeBlasio as outlined under his OneNYC program. The program identifies current investments of \$5.5 billion in combined Federal and local funds to adapt region's water and wastewater infrastructure systems damaged or destroyed by Sandy, while mitigating future risks. He said he "does not have a crystal ball", therefore when considering major infrastructure capital projects undergoing 8-10 year life cycles to deliver a project from programming, planning, design, procurement, etc., with a lifecycle design of 50 years, what they are designed for today, is a condition 60-70 years from now. That uncertainty is why the adaptive capacity is so critical. They can design and do flood elevation. As engineers, they deal with hard numbers. But critical

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thinking is required to design facilities to be adaptive in case the engineers are wrong. He then showed a slide that shows some of the projections by the New York City Panel on Climate Change. There is a lot of variability in the numbers. He said they have been noticing and started tracking participation and some of the weather events. They noted some trends in precipitation and noted some inter-annual variability in precipitation and more pronounced notable shift of highly intense storms. That places an extreme stress on the water systems and sewer systems which we designed for a five-year storm event. The design storm event is changing. They are seeing micro-climate intense storms in sectors of the city. There can be dry water flow in some of the treatment plants and combined sewer overflow (CSO) discharge in others. Whenever there is a CSO discharge there is a reporting explanation that has to occur in their ability to monitor entire climate intensity of storms, it does not exist currently. Having to explain that to regulators is a challenge. They started seeing this change in precipitation and started to wonder if it was a trend. Hurricanes Irene and Lee followed in 2011. In 2011, an all-time record rainfall was broken. Irene dropped 16 inches of rain in less than 24 hours. Two weeks later, Lee gave intense rain at the Catskill Water Shed, which required millions of dollars in reconstruction, repair and debris removal. Millions of dollars was committed to future studies.

Next Mr. Donnelly discussed Hurricane Sandy. He said the devastating effects of this storm brought surprisingly little rain, fierce winds, and an unprecedented tidal storm surge. At its peak, there was a 14 foot storm surge, more than 3 feet higher than previously recorded. 42 of the 96 pump stations that helped deliver wastewater to the sewer system plants were also damaged. Of those 42, the Manhattan pump station at 13th street, was most significantly hit. Most of the damage to the electrical systems including substations, motors, control panels, junction boxes, etc. were damaged. In addition, due to the Consolidated Edison and Long Island Power Authorities outages, many of EDP facilities operated under emergency generator power for over two weeks. He said more than a week before the storm hit they began their planning with the Department of Health. They started with sandbags. They called all material and chemical suppliers to make sure the tanks of chlorine and other supplies were topped off. They ran emergency shutdown drills. As required, they reviewed and modified emergency action plans. Up in the watershed, they lowered reservoirs in anticipation of potential flooding and expedited completion and operation of Gilboa Dam. They activated their incident command, which they have taken very seriously post-9/11. In addition they moved the communication center upstairs in anticipation of potential flooding. Among the damage included losing power in lower-Manhattan, a fire in Breezy Point, major street flooding, 700 homes were red-tagged, 67 yellow-tagged buildings required major reconstructions, the transit system was unprecedentedly shut down for two days with no subways in lower-Manhattan for five days. The significance of this on the response for water and wastewater was the impact that it had on people they rely on to run the systems. Many could not get to work because the modes of transportation were cut off. That was not something they fully appreciated in planning. A 150 foot tall, five foot diameter oak tree fell on Mr. Donnelly's house. He lost power at 2:00pm, by 8:00pm when it hit landfall, the tree fell. The day before the storm, he moved his city car towards the end of the dead-end street he lives on. The tree came across the street and blocked in his car. By 9:00am they were without power or heat and there was a knock on the door. It was his colleague at DEP who came to pick him up. He filled the generator with gas to keep the house warm and refrigerator going for his wife while he was gone for the next 14 days.

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Three of the wastewater plants completely lost power and the ability to treat wastewater during some period of the storm. Mr. Baylis said 10 of the working plants experienced some flooding. 42/96 pump stations were flooded and without utility power. Many of the tide gates at the outfalls, which keep the ocean and rivers from coming back into the system at high tide, were damaged. Debris and sand were pushed into the catch basin. All through the storm, they were still able to treat the majority of the wastewater. Even with the 10 plants that were damaged, and some going offline, the total wastewater discharge estimated at 580 million gallons, which was less than half of a normal day's wastewater flow. Given the fact that many of the areas were evacuated and most of the water in the system was storm-water, it did pretty good. They were treating well over 1300 million gallons per day. Next, he said he would like to talk about their Rockaway Wastewater Treatment Plant. After the Friday storm, he was asked to go provide needed leadership to get the plant back up. It was totally inundated in water. Water came up to about 3 feet over the thresholds and sandbags. They lost all of the main sewage pumps. They were not lost because pumps are not submersible and cannot get wet, but the electrical systems at some point have a connection and the water came up over the connections. When that happened, the water cycled back down the electrical conduit and damaged the pumps. There was salt water corrosion in the pumps. Fortunately they did have an aqueduct pump. He said that wastewater plants have many pumps to keep it flowing. They immediately established a bypass pumping from the wet-well. There is no physical screen of materials, which creates a problem for the pumps that required 24 hours per day of manpower to bypass into the primary tanks and initiate replacement of all of the main sewage pumps. The pumps were OK, but the electrical systems had to be replaced. The electric leads from the pump that follow back to the switches had to be redone. They had a backup component online and they were able to install that. It took about two days to install one pump, including pulling a pump from a truck and replacing it, and continuously switching it. This process worked pretty well.

Mr. Donnelly said the challenge for him was the "the operators like to fix things". That is their job. They wanted to fix all the pumps. It took a different approach. The lesson there is to take a variety of skillsets in to manage these situations and sometimes it is difficult to play to everyone's strengths. He then referenced "Murphy's Law", which says that anything that can go wrong, will go wrong. He said Murphy was "definitely around" the Rockaway Treatment Plant. There was an abandoned pipe (no one knew when it was installed or abandoned) that penetrated a wall of one of the galleries. A false wall had been put up inside of the plant to cover the opening, however it was not properly structurally sealed off. He said to imagine three feet of water from Jamaica Bay sitting on top of that surface and all the hydrostatic pressure pushed through the wall, pushed the wall down and an 18 inch pipe was in conduit to fill all of the other subterranean galleries around the plants. That was one of the main sources of water into the plant. With water coming in, there was a lot of other subsidence around the buildings. Immediately they had to initiate structural evaluations and assessments of all the facilities. Fortunately, nothing was so significantly damaged. Wastewater buildings are built pretty tough.

Mr. Donnelly said the wastewater resiliency program was underway before the storm, looking at ways to enhance the flood resiliency as a result of climate change. However with the storm, all the criteria changed. The study framework involved three phases: climate analysis, vulnerability analysis, and adaptation analysis. Phase one is what was most impacted after the storm. They

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decided to look at the new advisory based 100-year flood elevation, which had been revised. After the storm, the 500-year storm event for flood elevation for NYC became the 100-year event. They added an additional 30 inches on that elevation design for all facilities going forward. Using that elevation, they assessed their potential risk of assets. The bottom line was, just using a simple overlay of the new flood elevations and the locations of the plants and infrastructure, allows them to see that all are at risk for flooding, 60% of the pump stations were at risk. As an example, Hunts Point Wastewater Treatment Plant had almost 2000 assets reviewed. They looked at the elevation at various levels to see what the sensitivity was. At the 100-year flood elevation, there were 586 critical assets at risk, with 24 inches of additional rise due to sea level, another 212 assets became at risk and at 29 inches another 150 were added. Picking the right number is very important. When looking at Hunts Point, they looked at the 100-year flood over 50 years and looked at the cost of the unmitigated risk and they estimate that present value at 19 million dollars of assets at risk. When they looked at a sandbag approach, they looked at being able to reduce the risk by \$13 million at a cost of \$5 million. Flood proofing equipment would cost another \$18 million but it would also reduce expected risk by \$17.5 million. They will continue to do these studies and doing tradeoff to see where the “sweet spot” was to inform the decision makers.

Mr. Donnelly next displayed a chart that depicted some of the adaptation strategies that they were looking at. This was done at a high level analysis but not engineering design. This gives an idea of some of the strategies they were looking at. As far as flood proofing is concerned, it does not necessarily have to be “high-tech”. An example is they were doing a co-generation project at the North River Plant. As part of the design, they looked at protecting the co-generation equipment by building a wall around it. The marginal cost of putting a wall around the entire plant would only require raising the exterior wall 6 inches, versus the cost of building a wall around the co-generation plant resulted in a \$500,000 increase in cost, but it protected the assets of the entire plant. The design teams are beginning to think outside the box. It is not just about the project at hand, but thinking what would it cost to go to the 500-year flood protection and is there a good cost tradeoff. They are having those dialogues. He thinks that is pretty exciting. They are having resiliency workshops on every design project.

In summary of the study, he said they are estimating about \$315 million in work at the pump stations, and \$1.1 billion at the treatment plant could result in a net savings of \$2.5 billion in costs over 50 years. That is a pretty good return on investment. It makes the case that investing in resiliency is worth it. Some of the challenges that he sees they face is that resiliency prices still have to compete for demands of other capital funding including the state of good repair. The operators are looking for new pumps, new equipment, etc. Every dollar is critical to them, when they are told they need to spend another 30% to raise the pump. Sometimes the controls are not placed where the operators want them, due to resiliency. They have to make that tradeoff. They also have a new regulatory project, they may possibly have to upgrade their system for clean water, such as biological nitrogen removal programs. They estimate \$3.5 billion or 23% of their capital program is just dedicated to meeting mandated regulatory requirements. It is a big chunk of the budget. He said that public acceptance of climate risk seems to be there. People will generally hold a consensus that there is climate change, but there is a disconnect in the belief that something needs to be done about it now. It is a problem that translates down to when they look

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to get rate increases and they face that challenge. The other point is there are opportunities for more cost effective mitigations that cross boundaries and into other agencies. As an example, if storm water coming into the system can be reduced, it is a good thing. It would tax the infrastructure less. That means building green infrastructure that the Parks Department has to maintain and that goes into their operating budget. Therefore, that connection is made between the savings in infrastructure capital costs on water and wastewater with an increase in capital for parks and green infrastructure, and there are the corresponding operating costs for that and it is less. When dealing with two different agencies, seeing that can become difficult.

Financing is another challenge. He said the country is grappling with how to build vital infrastructure. He referenced a report on transportation from the previous week that said Connecticut drivers incur \$1,700 per year in additional costs due to quality of the roads. He said he also heard that Hackensack, NJ had a major water main break the week before the QBM and another one the morning of the QBM. It was reported that the citizens of Hackensack can expect two major water main breaks a week due to the poor conditions of the water infrastructure. Mr. Donnelly said the impacts of not investing in infrastructure are real. In a “business as usual scenario”, \$3.1 trillion in gross domestic product potential losses, \$1.3 trillion in trade, \$3.5 million in jobs, \$2.4 trillion in consumer spending, and \$3,100 in annual disposable income. When talking about water infrastructure, this is public safety. This is the water that people swim in, take ferries across, etc. It is even more important. There are also a lot of models on how much people should be paying for water. There are models about what is affordable cost. He said these models are not adequate. They do not take into account economic diversity across large populations such as New York City, but they need to. They believe that figuring out the solution will require investments to target priority in balancing economic, environmental and socio-economic restraints. It has to be done right. Infrastructure investments must address the most probable risks and increase the gap capacity to respond to changes they cannot even imagine today. He said Mayor DeBlasio is making sure investments are done to ensure quality for all New Yorkers with the benefits of costs shared in an equitable manner. He said finally, success depends on a partnership between the Federal, state and local government, and an interdisciplinary approach of science and engineering to make the tough decisions to maintain quality of life. He said he believes together they can achieve Mayor DeBlasio’s vision of One New York City, the most sustainable big city in the world and a global leader in the fight against climate change.

Ms. Lau thanked Mr. Donnelly and opened the floor to the Members and Administration to ask questions. Mr. Grain said that was interesting, informative, as well as scary. He asked if he had data on the Hackensack example on clean water transmission system for New York City. He said his understanding is some percentage of the transmission lines are actually wooden. He asked if he knew what the ballpark average age of the system and what the lifetime is. Mr. Donnelly said there is a display in their building about that. He said he used to work for Department of Environmental Protection, the agency that delivers water and wastewater. He moved to the Department of Design and Construction, the capital design and construction agency for New York City for all public buildings and industry infrastructure. They do all the sewer line replacements in NYC. He said he believes that most of those wooden transmission lines have been replaced, however it is possible there might be one that is still active, but it is highly

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doubtful at this point. They currently replace about 13-14 miles of sewer a year and that number will increase as they develop separated high level storm sewage systems to try to mitigate some of the MS4 program. Mr. Grain asked if the data is available for the average age and how that is coming down in the replacement. Mr. Donnelly said he does not have that with him but is sure he can get that information. A year ago there was an incident in Harlem where there was a tragic situation where a building had a gas leak explosion. Part of the discovery was there may have been some damage to a pipe that was leaking, which caused a chain of events. As a result of that the mayor changed the criteria that any pipe older than 1970 is being replaced now. It has added to their workload but they are not sure what the replacement is like with over 7,400 miles of water main. General Edmonds said he assumed that they have a master plan. Mr. Donnelly confirmed. General Edmonds then asked if there is a budget and how well they are performing within their budget, if they are very short of dollars, is it visible to the population, how the plan versus the budget stacks up. Mr. Donnelly said they do try to be as transparent as possible. There are websites now where they post the capital performance commitment.

Dr. Scott asked Mr. Donnelly if there were three things he would want the Federal government to do that would make things so much better in the short term, right now. If these things took place it would make life better for a lot of people in the sector. She then asked him to take that same perspective with a longer view "If we could do these three things, twenty years from now, it would just be immeasurably different." She said that could be regulatory, funding, implementing, etc. In short, what recommendation would he make for the NIAC/Federal government to do to really be helpful? Mr. Donnelly said he was not sure if he could name just three. He said within the city they sometimes have disconnects between the agencies. An example, they might be looking at pervious pavement as a green infrastructure concept that would result in less water runoff. However, that could potentially place a burden on the Department of Transportation (DOT). The DOT said that instead of having miles and miles of asphalt on a highway, they have come across several miles of this pervious pavement. It brings up questions about maintenance, materials, tools, equipment, training, personnel, etc. It creates operationally a challenge for them for maybe a small portion of their entire portfolio. The incremental cost may be initially much higher to maintain a few miles than the rest of the deficiencies. But the alternatives to the water infrastructure can be shown to be significant. That is just an example. He asked, where on the Federal level does that exist? He said they lost pump stations during Sandy because they tried to keep them running. That is what pump stations do, they pump. He said they do not want to discharge into the water bodies. Therefore, the result of that decision to keep those pump stations running "come Hell or high water", the high water came and they lost the pump stations. The water receded within 24 hours, they could have taken it down properly, pumped out the pump station and turned it back on. They could have been back in business days. As a result they lost entire pump stations that cost a lot of money and when the pump station is down, it is discharging into the water system anyway. He asked how they can have a dialogue between an operator and regulator who says they cannot discharge into rivers. He said maybe they can get there if they can work on preventing that from happening. But when they know it is going to happen, they do not currently have the tools to make those risk based decisions and save infrastructure. He said that was very frustrating to him during Sandy. He said he is not an operator, he is not a construction person, but he found that to be frustrating because he saw that they lost facilities and assets that if they had some flexibility may have been saved. The

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operators know how to maintain and optimize their systems, but they are not able to use their best judgment. Dr. Scott clarified that this was not a situation where more resources were needed, but different critical thinking and the opportunity to have the right people at the table and go through those kinds of scenarios. General Edmonds said “decision tools”. Dr. Scott said absolutely. Mr. Donnelly said in their emergency planning they do table top exercises. That would be something that would be an easy thing to do. He said if they had that conversation they could build some decision rules around that. He said in the Study Group calls there were some conversations with a woman from San Diego and she was facing some similar issues.

General Edmonds said the Communications Sector have to make those same kinds of decisions when they know the storm is coming. They take the antennas down so if the storm lasts 8 hours, in 10 hours they are back in the air, rather than letting them freefall in the wind where the storm will tear them up and it will take nine months to get them back in the air. Mr. Donnelly agreed. He said they also have a situation on the water side with the reservoirs which were designed to be water storage and now they are turning into flood control systems. We are dropping water levels to create capacity for managing storm water. There is considerable impact to the water supply. They are investing enormous resources in their watershed protection. They call it a filtration avoidance determination problem. General Edmonds asked if they pump it up there. Mr. Donnelly said it is all from the water sheds and collected naturally.

Ms. McDonald said she wanted to follow up on the tradeoff discussions. They would have to invest in another half million dollars to safe guard the whole property. There was a tradeoff discussion on operations versus the construction site. She asked how much progress he thinks is being made in that area, especially coming from the private sector and into government. It entails a greater degree of risk for people in the government to take, like he had said, the DOT, Parks, and OMB have to weigh in. She asked if he thinks the city is making progress in not only having those discussion, but memorializing them and sending guidance to them. Mr. Donnelly said that within DEP, he saw good progress in having those conversations. He said spending capital dollars is always preferred. Shortly after the storm, when it was so fresh in everyone’s minds, people got it. As time goes on, there is concern that people begin to say “well it has been three years, is it really going to happen again, that was a fluke”, therefor he said he does not know. He thinks the other challenge, which he has not seen as much, is across agencies. He thinks that is where the next challenge is. He thinks towards that end, the mayor established the office of resiliency and recovery. That is a good first step. They are getting involved in forcing those conversations. But it is still complex. The operating agencies and the budget office have complex relationships in making decisions in a timely manner. He said they have to deliver infrastructure, they have to deliver their projects. It is already in a design-bid bill environment which they are adding another year to that process. While it may lead to a better decision, the uncertainty at the endpoint of 50 years from now, they are not sure if they are getting the benefits. Mr. Grain asked Mr. Donnelly to think about some of the large buildings that are built down 57th street. He asked what role does he and his organization play in the process for approving “major league projects” and is there a Federal level of approval. Mr. Donnelly said he does not believe there are Federal approvals, however NYC has instituted some fees for storm water discharge where one or more people are looking at those three loops and other amenities to manage storm water. That is a policy thing. NYC has instituted electronic wireless meters so the metering ability has gone up

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significantly and resulted in reverse calls for those whose water usage is not normal. If their water usage has gone up, they get a reverse call and as a result they have eliminated a number of leaky service lines. He said because of this program, water usage is actually declining. It is a challenge on every side but the supply side is especially important. The public side and buildings are hinged by the Department of Buildings. Policies are in place to require a better management and stronghold. He said there is also the energy code which focuses on energy efficiency. On the public building side, the Police Academy is brand new, world class police training facility, which is impervious with a zero net discharge of water. They are very proud of that. The use of green infrastructure and energy efficiency are big examples of their public points.

Ms. Durkovich said she had two questions for Mr. Donnelly. She said on the slide with the summary of costs they had an adaptation of costs including no action versus risk avoidance. She asked what formula they used to arrive at those numbers. He said they brought everything back to net present value. They looked at the asset costs in the database. Assuming that by looking at the flood elevation costs inundated and looking at the replacement value of those versus the cost of repair and response. Ms. Durkovich said that is something organizations often struggle with, the cost-benefit piece of this is certainly a gap seen by the Federal government. She said on a previous slide it said all facilities are equipped with backup generators. Mr. Donnelly said that is a requirement of their wastewater operating programs. She said given the fuel supply chain issues in New York during Sandy, she asked if they had thought about the extended outage of where that fuel is going from in terms of critical assets like getting power restored but also fuel. He said that is an interesting question and is sure those conversations are being had. He said they are moving away from using fuel oil to fuel the generators. Some of the natural gas produced and the systems are going to take ability to generate natural gas and using that power for powering systems on site. In addition when they have excess power generation back into the grid, new power in the largest wastewater facilities chose not to go to co-generation but is actually producing the methane and putting it back into the grid so they are actually selling it back to the national grid. He said their emergency generator systems are run by natural gas which is a more reliable supply system but in Sandy there were outages. Mr. Baylis said even if they had fuel, getting fuel to a plant that may have a flood around it may not be possible. Mr. Donnelly said Oakwood Beach was completely surrounded. It did not flood, but it became “like an island in the middle of Staten Island”. He said sometimes things happen that you just can’t imagine. The fuel shortage was real and on a civil level, the people were coming home at night and parking at the gas stations and walking several miles home and getting up extra early to go back to the gas station for their car to be in line for gas the next morning in order to get the work. People were coming with gas cans to fuel their generators. People were cutting in line and police had to manage the gas stations. He said while he was working, his wife and son walked to the gas station and there was widespread civil unrest. People were getting desperate. He said that was very scary to see how quickly something like that could lead to the breakdown of civil order.

Ms. McDonald added that the oil barges were in the harbor, which was the scarier part. It could not get to the ports. Ms. Durkovich clarified that it was not necessarily a supply issue, but they could not get in and out of the terminal. The terminals that were down were the truck rack terminals and they did not have power or communications. She said, “it is hard to run a visa card at an intersection.” She said if there was ever a textbook case study on interdependencies it

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would be Sandy. She said the reason she asks about prioritization is because there were telecommunication hotels in lower Manhattan that were hours away from running out of fuel, leaving it dark and without phone service. On top of that, there could have been massive water or wastewater problems. Mr. Donnelly said they are in the pumping business and they do pump. The Manhattan pump station that was just close to finishing a major upgrade flooded. They brought pumps for that and tried to unwater it and get it up and running, because that feeds all of lower Manhattan with 900 million gallons of water per day. They came and pulled the pump with the state police to send it to Nassau County's Bayshore Treatment Plant, because it was out and dumping pollution into the bay. That was considered to be a greater priority. Ms. Durkovich thanked Mr. Donnelly. Ms. Lau asked if there were any other questions.

Mr. Letvin with the NSC said that it was a great presentation. He said the recently signed executive order 13690 would now require Federally funded projects, either a sea level rise option or 24 inches of freeboard for regular facilities and 36 inches for critical facilities. He said Mr. Donnelly's 30 inches is right in line. He said he really commended NYC for looking forward and look to the sea level rise in the future and using that to plan your investment decisions now. He said teeing off of Ms. Durkovich's point, on slide 28, he thinks that the Federal government could do a better job of making the business case for this. They know that this type of planning is right, but how do they convey the losses avoided. If they take no action, how do they communicate to people who are allocating money that the cost is going to be greater if they do nothing? He said he knows FEMA has done some loss-avoidance studies and Federal loss studies, but he does not think they have done enough collectively to convey this message on the Federal level. He gave an example of what is the benefit-cost ratio? He said when they go to Congress the study everyone cites says 401, but he thinks it is probably greater than that. He asked how they communicate in a way that is tangible. He thinks it is great that they have "taken a bite of this" and have used it to help make an investment case to allocate that money. Mr. Baylis said to highlight Mr. Letvin's point, what if it went a little longer and the sewage did not pump and people went home and could not flush their toilets. There would be a panic. There is a whole different level of panic if you do not have clean water. In a city like New York, that would be exasperated. Mr. Letvin then asked Mr. Donnelly with the \$315 million budget for the wastewater plants he is responsible for, how does he prioritize all those different projects amongst all the plants. He wondered if there was a comprehensive study where they do certain plants in certain years. Mr. Donnelly said that is a challenge. In response to Mr. Letvin's first question he said, "How do you explain that". He said it reminds him of his wife coming home and saying she saved \$100 today, by buying \$200 dress that was 50% off. He said he wants to spend \$315 million to prevent \$1.1 billion in cost and \$2.5 billion in cost over 50 years. However, he said "what if nothing happens?" It is like buying insurance. He said he buys car insurance every year even though he has not had an accident in 30 years. But if he did, he is not out of business. It is difficult and people do not get it. Water has become such an expectation and they go and turn the shower on in the morning, brush their teeth, boil their pasta, and when the fire starts, the fire department puts the fire out. It is expected. In this country you can almost anywhere, find a water fountain and get clean water without being afraid of getting cholera or dying from a disease. He said looking at countries like India and where they are now, the United States was like that not all that long ago. In the 1930s it was not that way. He said, "In 80 years we have come a long way". Those facilities are less than 100 years old for the most part, now

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they are at the end of their lifespan. They are being kept alive with Band-Aids, etc. It is coming to a point where there needs to be some serious investment and that drives priorities where they are making a major investment in the capital program. That is where they are saying they will take advantage of that opportunity to employ resiliency. There is a cognitive scale too. They have to mobilize for upgrading the pump station, new roof, and new generator system, move the generator up five feet to get it out of the flood zone. The marginal cost of doing the resiliency goes down as a result of that. But the challenge is, the clock is ticking. When is the next storm coming? When is the next event? There is \$315 million worth of work to do, does it get done in time for the next event? That is the challenge.

General Edmonds said in his opinion the most important thing is getting started, and where they want to get started. It needs to be decided if the priority is easiest, cheapest, fastest, etc. He said in government once they start a project and can get people to fund it, they have to start it. He said most of the time these things get started with a price tag that is too big, \$10-15 million. He said during emergencies such as Sandy, if after recovery there is good sense to take a look at that money and start a new P3 for the pumping station. If you show you got that started, and you show that you made progress at “pump station 15”, which had the worst problems, some might invest in “pump station 14, 13, etc.” He thinks the only way to get the Federal government to contribute to this is to get locally generated projects with the local population and local water companies invest in something and look for help to do more. He said he thinks the hardest thing is getting started. He said, “Nobody wants to look at the elephant in the room, but by taking it one step at a time the elephant turns into something else.” Ms. Lau said that Dr. Scott had a question but also wanted to make sure the Members on the phone, Mr. Noonan and Mr. Rohde, have the opportunity to ask questions after Dr. Scott’s. Dr. Scott said the “devil is in the details”. She said that in New York they were able to do this, but in New York part of the problem is in many sectors people do not even have the foundation in place to know what their assets even are. The thought of being able to even do this when you do not have the foundational pieces is over doing it, but it is “kind of like an elephant”. She said we have permitted this to be this elephant, so they have to start with what they know. At the same time if they never put the rigor, regardless of the sector into doing the basic building blocks, asset management, etc., they cannot even put in best value public asset procurement, because they do not even know what the assets are to be able to actually operationalize being able to do a life cycle. It can be on the books, but it can never be implemented. She said Mr. Letvin was absolutely right that the “devil is in the details” and the details are “missing in action” so when they try to move it they are getting bad directions. However, she said this discussion has been wonderful.

Mr. Noonan said that he had no further questions, but he appreciated the first comment made that this is absolutely shocking information. He said it has been great to see the depth of analysis and constructive critique. Mr. Rohde said he had the same comment. Mr. Wallace said that he has been listening intently to Mr. Baylis’ discussion as he prepares to report on the Strategic Infrastructure Executive Council (SIEC) later in the QBM. Mr. Wallace commented that water is a much more complex critical infrastructure than some of the others such as electricity, financial services, communications, etc. which are much easier (but also complicated). He said the thought that goes through his mind is, “Mr. Donnelly, with all that you know, what should be done?” Mr. Wallace said to forget the analysis and all of that. Executives do all that inherently. Executives

make decisions and take risks. People lower in the organization are not authorized or allowed to take risks. If the right executive leader is identified, they do not need to do that complete analysis to know what the right thing is. He reiterated General Edmonds point to “get it started”. That is what he said they are trying to do with the SIEC. They are trying to punctuate that they have to elevate it, and move out and do not wait to bring everybody in the beginning. Ms. Lau said that the morning before the QBM, the Water Working Group met and there were several comments saying that the lifeline sector CEOs really need to get together with their government counterparts, to start working on these issues. She said it is happening naturally with the Electricity Sub-Sector Coordinating Council, but it is really needed on a bigger level. Ms. Lau then handed the meeting over to Mr. Jack Baylis.

**VII. STATUS UPDATE ON WATER
RESILIENCE WORKING
GROUP**

Jack Baylis, Working Group Chair

Mr. Baylis informed the Council that before the QBM, the Water Working Group met in person. He said when the Council met in September they reviewed the study charge and framing questions and outlined their approach. Since then, they have been gathering information and expert insight. He said he would like to thank his fellow Working Group Members: General Albert, Edmonds, Ms. Peg Grayson, Mr. Murren and Dr. Scott. He said they had a lively discussion before the QBM. He said that his presentation will be an update on Working Group and Study Group activity as well as the study timeline.

Mr. Baylis said he would like to review the study charge before proceeding. He said they were tasked to use the NIAC recommended framework to test and validate the usefulness of the framework in the Water Sector. In addition, look at issues in the Water Sector and identify potential opportunities to address them. In particular they want to understand some of the key interdependencies as they discussed between water and other sectors and how that affects national resilience. He noted that the NIAC framework can be seen in the slide deck. He said the Working Group has a great mix of skill sets and backgrounds. He said one of the ways the Working Group gathers information is through interviews. At this point they have conducted five in-depth interviews with outstanding senior level subject matter experts (SMEs) and leaders in key agencies. They are leaders in both national and local water infrastructure. In addition to the interviews and research, they had a facilitated discussion with the Water Sector Coordinating Council on November 10, 2015. They are very interested in what NIAC is doing. The session included owners, operators and water and wastewater industry leaders that have been actively engaged in a public-private partnership (PPP). As mentioned, the Working Group also had a

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work session before the QBM, where the key themes and development of initial questions came out.

The next slide showed the Study Group Members. He said the Study Group has broad representation. Mr. Baylis said there are other water and wastewater security and operations experts, regional water experts, emergency management experts, engineering and technology experts, as well as representatives from state and local government, utility management, energy, and construction and communications management. He said the Study Group is making excellent progress. They have done more interviews than the Working Group at this point. In October-November, they conducted seven panel discussions on the following topics, which are the topics that they are looking at: 1) Water Sector Risks and Barriers to Resilience 2) Cross-Sector Dependencies and Interdependencies 3) Planning and Investments in Resilient Practices and Infrastructure 4) Extreme Weather Impacts on Infrastructure 5) Emergency Management 6) Cyber Security 7) Next Generation Resilience. He said he wanted to make sure the full Council was aware of this and asked if there was anything they would like to add, or ask the Working Group today so they can come back with solutions. He said if anyone sees if there is a missing element, or something they want to add, the Working Group would like that input. There were no comments. Mr. Baylis said the Study Group had talked to more than forty experts. They are on track to deliver their preliminary findings to the Working Group in January. He said that is why he asked for comments at this time, "Because the train is moving". He said they send updates on deliverables to the Working Group and Study Group and steps are being taken to deliver the final report at the June 24, 2016 QBM. He said if they look at the schedule, the red dotted line represents where they are now on December 1st. They are still conducting interviews and research. In the New Year, they will receive the Study Group products and the Working Group will give its analysis and integration. This will allow the Working Group some time to develop initial findings and recommendations by March or April 2016. He said he wanted to thank the Council and asked if any members have any questions or additional comments.

Mr. Wallace said he was not sure if his thought was relevant but he would like to "throw it out". He referenced the CEO engagement study that will be reporting out soon. He said they had hoped that would be finalized in March 2015 and they would be working on implementation, however they are not. He said hopefully after they make their report today they will get approval for the recommendations and it will go through by the end of 2015 or January 2016. He said knowing that, his comment is that it seems appropriate for the Water Working Group to align their involvement with the role or engagement with the SIEC. He said that can only be reinforcing to both sides and helpful, but he is not sure exactly how that can occur when they have a report that will be in with recommendations, but not approval. He said he would look to the Federal Advisory Committee Act (FACA) experts about how that would work, given the timing. Mr. Baylis said that was a good point. Ms. Barr said her understanding is that after the deliberations and the (presumably positive) vote, it would be delivered formally to the President through the Secretary of Homeland Security. At that time, the President can make formal recommendations to department agencies to implement the recommendations from the report. She said this did not prevent the government from taking action, but having the Administration staffing is more important. Mr. Wallace asked to further clarify that if in the extreme, if the recommendations do not come back approved, no action occurs. In that case, he asked if it would

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be inappropriate for the Water Working Group to reference the CEO engagement report and its recommendations when they are in a state of animation of whether or not they are going to be approved. Ms. Barr said that she would have the Committee Management Officer (CMO) weigh in. Ms. Silas, the CMO, said that there is no approval process, only acceptance. She said whatever has been deliberated on will be pushed through. Ms. Barr said once the Council has voted on the recommendations, they can be included as part of the report. Mr. Baylis clarified if that meant publicly deliberated or deliberated at all. Ms. Barr said it has to be public. Ms. Silas clarified deliberated and voted. Ms. Lau said they have done that before where a study has been reported out and certain points of the study were referred to in other studies. Ms. Silas said sometimes literally a minute afterward, committees will use the information, even right outside the conference room. Mr. Baylis thanked Mr. Wallace for asking those questions.

Mr. Baylis asked if there were other questions. Ms. Lau said they had talked a lot about CEO level engagement and where the resources are allocated. She said it struck her as they were going through the interviews that they have done so far that, there are not any CEOs of water companies. She said while water is considered a public entity, the resource allocation is not done at the level of people they are talking to. She said she is not sure if it is the mayor, or governor, etc. Mr. Baylis said that was a good idea and that he is on board for policy and funding levels. He said the Working Group will take in that idea and figure out how to incorporate that. Ms. Lau asked if there were any other comments or questions for Mr. Baylis and the Water Working Group. There were no further comments.

**VIII. PUBLIC COMMENT: TOPICS
LIMITED TO AGENDA TOPICS
AND PREVIOUSLY ISSUED
NATIONAL INFRASTRUCTURE
ADVISORY COUNCIL
STUDIES**

Lisa Barr, DFO, NIAC, DHS

Ms. Barr said for the record there were no public comments registered. She said in the event there are comments, they can be made at regulations.gov and they will be provided to the NIAC members. She said she would now formally close the public comments section of the meeting due to the fact that there were no pre-registered comments. She then turned the meeting over to Ms. Lau.

**IX. CEO REPORT
RECOMMENDATION
CLARIFICATION DISCUSSION**

Michael Wallace, Working Group Chair

AND DELIBERATION

Ms. Lau said they would move on to the next item on the agenda which is the clarifications on the CEO report and will be presented by Mr. Michael Wallace. Mr. Wallace thanked Ms. Lau. He said that what he will be delivering is the response to the five questions that were asked of the Working Group subsequent to the NIAC accepting their March report and its submittal to the White House. He said he would like to clarify upfront that all information they are providing in the slides has been taken from the deliberations that occurred throughout the course of the 12 months while they were conducting the active study. He said they found it was not necessary for them to go back and redo anything. He said when they did the original study, they chose to limit the body of what they were putting out in the interest of quickly getting to the recommendations. The questions that were asked were able to be answered using the work they had done before. He said that was an important point. He said that while the report shows three Working Group members himself, Ms. Grayson and General Edmonds, Mr. David Kepler was also involved and did great work. Mr. Kepler is no longer on NIAC, he resigned when he retired however, he also was able to support the group and technically he is considered a Subject Matter Expert. He said he also wanted to recognize Ms. Wong. He said it is also always appropriate to recognize the Secretariat because they do a lot of work. He then said he wanted to emphasize the amount of work that Ms. Wong did, above and beyond on the original report and also to help the Working Group bring to the forefront what they consider and he hopes the Council finds it to be a complete and succinct discussion of the five questions. He then presented a slide containing the five questions from the NSC and said he would go through one slide per question and give a summary of the answers. He said for the sake of short handing terminology, he will likely use the phrase "senior executive". That means that CEOs and senior executives in the private sector, as well as senior members of various agencies in the government. He said the SIEC is about a public and private sector entity with senior people on both sides. He said there will be some times when he wants to discuss the industry side and he will express that as such.

Mr. Wallace said the first question they were asked was fundamentally given the current composition of NIAC and the PCIS, why do they need a separate SIEC and how come one of those organizations cannot serve the function. He said they deliberated that significantly in terms of developing the original report. He said the table is designed to try to answer the question succinctly. He said everything he is saying comes from the text of the written response, but may be articulated differently in terms of semantics. He said as all members of the NIAC know, they are part of the Council as individual special Federal government employees in the Executive Branch and do not represent their companies or sectors. He emphasized the members are "here" as individuals. They are chosen for these membership positions because there is an expertise in their background that the Administration and the President appreciates and wishes to have brought into his advisory body, the NIAC. Further, what they do is only advise. The NIAC does not drive action, negotiate outcomes, etc. They simply provide one directional advice to the President. In addition, the NIAC is a FACA body. It is therefore not appropriate for the NIAC to engage in collaborative discussion decision-making with Federal government counterparts about actions that might be needed, to approve or address any particular issue. That is not the role of

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NIAC. In addition, he said PSIS is 100% private sector. It is not part of the government, it is independent of the government. Those who are part of the PCIS are generally Chairs or Senior Members of Sector Coordinating Councils (SCCs). They are generally not CEO or senior executives, although there are exceptions. Their role is to coordinate and promote and they do so by working out of their self-directed agenda. Mr. Wallace said that he knows about PCIS, because he was once Chair of PCIS for a one-year period. He said he worked with his predecessor and his successor to try to elevate the role of PCIS so it could address CEO level strategic issues. They could not get there. He said it does not matter how it all works, but it did not happen after three senior executives tried to move it to a different level. He said that is no “stones thrown” at PCIS. They do a lot of good cross-sector coordination at the senior manager level, and they work on issues that they identify themselves as issues worth pursuing and they do engage with Federal government counterparts. However, they are not the type of group to do what the SIEC is structured to do.

The SIEC is seen as public-private sector, with both sides. It is proposed as a Critical Infrastructure Partnership Advisory Council (CIPAC) Working Group. He said CIPAC means that the public sector and the private sector can work together to solve problems without being constrained by some of the issues and requirements of FACA. The SIEC would be working mutually, collaborating and coordinating to solve problems and move activity forward. The SIEC membership would be CEOs and senior executives from industry, and would be collaboratively selected between SCCs and Sector Specific Agencies (SSAs) for relevant entities. It would just be water, communications, etc. They would come from the five sectors which will be addressed later in the presentation. The formation of this begins with the dialogue the Working Group had over the course of a year, as well as the case studies. They had six case studies, each are found in the appendices of the original report. For these studies, they brought senior executives to the table and asked them about issues that they are concerned about, why they cannot get them solved, what they need to get solved, and if they had a success, how that worked. He said as they went through all of that, what they realized is a lot of people tried very hard but it is very challenging times to get things done. He said the inability to get things done as fast as they should be was one of the most common themes that came back. The Working Group saw a need to accelerate how fast things move forward in light of the increasing threat environment. If they had 5-10 years to resolve these issues, they could probably end up in a decent place. He said, however, “we do not have 5-10 years, we need to move a whole lot faster”. He also said the process needs to be formalized for direct senior executive engagement on the industry side and the government side. He said they realize senior executives need to be drawn into the framework, focus on problem solving and do so by looking at strategies and policies, because they do not develop and implement action plans, but they do apply resources and set priorities. He said he will likely mention this a few times: “It becomes a bit of a see-saw to this.” If CEOs are engaged, they are not going to tolerate spending time on issues that will not produce meaningful results. On the other hand, if there are issues brought to the table that are high policy level requiring risks and tradeoffs, regarding government and industry, the CEOs want to be there and make sure they have responsibility to protect their businesses at very high policy levels and priority issues. Therefore, CEOs will not go if it is a waste of time. If this format is properly organized, they will bring these high level issues, because they know they are there and require that type of deliberation. He said drawing them in, and focusing on high-level policy and priority issues is

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what is really required. The reason it is more important now is more things now require consequential coordination, tradeoffs between efficiency and operation and use of technology, design of business processes, and in some cases, a more direct focus on long term capital investment for sectors. Resilience also requires management decisions across the sectors.

Mr. Wallace said he would give two anecdotes that do not come from their material, but punctuate how he sees this working. He said two weeks ago in a classified setting (therefore, he said he will be obtuse about the details), there was an electricity industry problem that was very challenging. He said the government's senior people were working on it and the industry's senior staff were working on it, for months with lawyers on both sides. It was not getting to a quick successful outcome because nobody among those groups are allowed as an authority to make a decision to accept the risk that they were working to manage and eliminate all types of verifiable risks. He said on the basis of relationships, they brought two executives in. He said as a past senior executive, he knew exactly what the right answer was, but because he was not a sitting executive he could not make a decision, but he knew where it would go. The two senior executives came in, and there was a fifteen minute presentation and a 30 second decision. It was a decision with risk. The fact that the decision was made is probably going to affect most, if not the entire electricity industry in a positive way, because there will be adoption of decisions that are viewed as reasonable decisions in the light of imperfect information and an environment where risk needs to be accepted in some way. He said it points to the fact that, that is what senior executives do. The people at lower levels cannot do it. They are not supposed to do it. He said that they should not want managers to be taking large risks. He said the phrase they developed during that forum was "the senior executives had a 'get' and a 'give'". They had to give something to their government counterparts that they would rather not have given, but in return they got something that they really wanted. There was a little risk on both sides, but a tradeoff equation that worked and is probably good for everyone. Therefore, actions went forward in weeks that probably would not have moved forward in months.

Mr. Wallace said a second example is the GridEx exercise that was done the week prior to the QBM. He said for those who are unaware, the exercise involved spending 5.5 hours with 35 senior executives, half CEOs from the industry and half from the government, including people from Ms. Durkovich's office. There were many different types of groups. They ran through scenarios, where Mr. Wallace was the facilitator. The outcome was that they were able to identify gaps, issues, challenges, and threats. He said CEOs do not have time for the trivial stuff. The gaps that were identified were the big issues, the issues that take CEO engagement to resolve. He said the likely outcome of GridEx is going to be a series of recommended areas to be worked on that will involve very high level people on both sides. He said interestingly, more than once the observation came up that this is not just an Electricity Sector issue, it had cross-sector implications. For the purpose of the design of the exercise, they chose to only focus on the Electricity Sector to keep it simple. However, he said embracing some of these issues with counterparts from other sectors will be key to serve the national interest in the best way, so that the environment is ripe for how they do these sorts of things systematically and effectively and not just one-time like the meeting he had. He said they want to make sure that GridEx goes in the direction where there is broad understanding of the issues and reasonable decisions made by people who have the authority to make decisions at high levels.

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The second question posed by the NSC was about clarifying the reporting structure of the SIEC, as well as the process for tasking the group. Mr. Wallace said they identified that under CIPAC, the owner-operators worked directly with their government counterparts. Senior executives in the industry worked with senior executives in government. The tasking is undertaken when it is mutually agreed. Therefore, the task that the senior executives on both sides are going to want to take on, are only those that are relevant and appropriate for their level of decision-making. They are not going to take on “what color should all the cars be” in the matter of an emergency. They might very well take on, “who is going to make the decision to allocate scarce resources when too many people want the same resources. If there is a major cyber-attack, everybody is going to have the same dial-up for the same company for the same guys that they know can fix their cyber stuff. That is fine in a normal business, it keeps business moving around. But when we are in a very bad situation, who makes the decision about where ‘Joe Doe’ goes. We do not have a framework for how that is accomplished.” He said that is just one example of the type of issue that can be worked through. The issues that get picked out are the ones that the senior executives want to work because it has relevance to the risks associated with their business. He said they recommended in their report that the Secretary of Homeland Security work with the SSAs and the Assistants to the President for Homeland Security and Counterterrorism to identify, clarify and articulate the mutual value of opposition. He said they should take a concerted effort to identify what are the priorities and the policy issues that need to be worked, recognizing that there are too many to have everything “thrown on the table”. He said they should start with the top five, work with those and then figure out what the next five are. He said that needs to happen collaboratively, though he clarified that within the Working Group’s recommendation, they believe that should start with the Secretary of Homeland Security. He said this explanation should cover the tasking and how the reporting structure would work.

Before addressing question 3, Mr. Wallace added that in the narrative report these questions and answers are “blown out” with more detail and he is currently summarizing. Ms. Lau added that the full report and questions were posted on the NIAC website as part of the public record. Mr. Wallace said the public sector is not recommended as the core members of the proposed SIEC communicating with other parts of the SIEC. He said the SIEC is intended to be Electricity, Water, Communications, Financial Services and Transportation Sectors. He said after all of their interviews and inputs the Working Group decided on those five sectors. He clarified that they are not the “lifeline” sectors, it is a dual concoction which they call “strategic infrastructure” because it includes Electricity, not Energy, and Financial Services is added. He said the Working Group picked those because in their interview, they were the sectors that the interviewees consistently said they most relied on. That is how they came to identify those five to be grouped as most strategic. He said within that, it is not a “one-size fits all”. He said that those who were on the Transportation Working Group the previous year all know, the Transportation Sector is complicated. As just discussed, the Water Sector is also complicated. In comparison, Electricity, Communications, and Financial Services are simpler. He clarified that in their own right they are complicated, but juxtaposed with other sectors, they are easier to “get our hands around”. In addition, there are fairly well defined working executive groups already in place for each of those three sectors which would be levered off. He said it is the centrality and importance of those five sectors that cause them to come together.

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Mr. Wallace then explained that the SIEC is intended to be issue specific and if there is an issue that is developed, for example “if the Financial Services Sector sees no relevance to everyone moving to transformers but the other sectors are concerned about it, then Financial Services does not need to participate in a discussion on high level policy as it relates to transformers.” The Working Group also had discussions about the sub-sectors such as Natural Gas, etc. He said that it certainly has relevance. Natural Gas is a relevant part of the discussion and would come to the table through one of the other five sectors, such as Electricity or Transportation. He said that is the way they are brought in. He said they want to keep the group small enough so it is focused to move, because if it is too broad than the manpower gets diluted trying to focus the efforts, yet it is not intended to be exclusionary. It is intended to be inclusive where there is relevance. He said they also recognized under the National Infrastructure Protection Plan (NIPP), that there are mechanisms, cross-sector council, the FSLC for the government leadership that allows just the industry or just the government to carry out coordination activities as well.

Mr. Wallace then moved to question 4, which asked how could the SIEC best optimize sector representation when some sectors are very complex and diverse. He said he felt that he identified that already in answering the previous question. He clarified that participants would be those with the most relevant interest for the issue being addressed and they would come in through one of the core SIEC sectors.

Mr. Wallace said the last question the NSC asked is what they asked the subject matter experts who were part of their interview process, most of whom were senior executives and senior level individuals. He then provided a list of questions in the slides, but clarified that it was their intention to be very open and not constraining to the CEOs. Some of the most basic questions were “what are your needs and how might they be better served; where have you had an example in your sector where something has worked well and how did it work and how can we learn from it; what are the elements of success; what are the gaps that need to be closed”. He said they used those questions to guide their interviews, but they really sought to set a framework with the people they were interviewing to draw them to be more free flowing on how they saw the needs of their sector at the CEO level, as if there was or would be CEO engagement.

Mr. Wallace said they concluded the original report in recognizing the Working Group’s view as accepted by the NIAC that the nation and critical infrastructure are at a defining point. This is not a static environment where they can take ten years to solve problems. He said they need to think about how they can address the growing complexity of the threat and be able to move with greater focus, greater speed, greater effectiveness at the senior levels of both the public and the private sector. He said they identified what they consider to be the success factors: 1) Sector Focus; 2) Senior Executives impressing national issues; 3) Focus on national priorities and policy issues appropriate to a CEO; 4) Achieving significant concrete, measureable outcomes (CEOs do not have time for developing plans and procedures and strategies. They want outcomes that translate to risk reduction of some sort. He said the government senior executives want that as much as the industry senior executives want that.) 5) There needs to be a budget and experience, capable staff to support the senior executives. He said speaking for himself, if he did not have senior staff at his jobs, he does not know how he could have functioned in roles

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such as CEO, President, Vice-Chairman, Chief Operating Officer, etc. of different entities. It is the staff that does not make the decisions and drive the agenda, “but they do the work and serve it up”, like the example he used in the beginning, a high level discussion can happen in 15 minutes with two executives and a decision can be made in 30 seconds and they can move forward. He said if they did not think they had enough information, there would have been a “go get it”. He said they understood the flexibility and there was enough to make risk tradeoffs appear. It is not something that lends itself to easy quantification in a risk-benefit tradeoff. That is what is key to allowing senior executives to be able to make decisions. They have to be leveraged with very good staff. He said their argument was permanent staff, recruited from DHS with some industry and government experience, because this is both government and industry working to move these forward. He said they collectively need a staff that understands the totality of how industry and government think of things. He said he thinks that is a succinct summary of the answers to the questions. He emphasized that more expansive answers are in report and he encouraged everyone to look at it and see that they tried to be succinct in what they put in, but still a self-standing response. He then turned it over to his fellow Working Group Members, Ms. Grayson and General Edmonds.

Ms. Grayson thanked Mr. Wallace. She said that he covered all the points that they were looking to address. She said one of the things they spent a lot of time with in the Working Group was to evaluate whether or not another organization was needed. She said no one wants to add another organization if there is already something that covers it. However, she said through their research they realized there was a gap. The gap was the ability of the government and the private sector at a very senior level decision-making forum. She said they would come together, identify relevant issues and be able to make a decision quickly. That structure does not exist and through this process, the recommendation they are making is to put that structure in place. She then turned it over to General Edmonds. General Edmonds said a lot of people in the country do not believe and support CEOs interacting with the Executive Branch of the Federal government. He said in his experience with the National Security Telecommunications Advisory Committee (NSTAC), about half a dozen of the CEOs have gone to the White House and have been able to talk with the President for 10-15 minutes, sponsored by the Secretary of Homeland Security. Just a short talk can accomplish a lot. A few minutes of face-to-face can accomplish much more than emailing back and forth. He said with an SIEC type of group, if the country has a problem, the problem needs to be solved in the best way. General Edmonds feels the best way is to have 10-15 CEOs around the table and the President saying “I want you to do this for your country”, which would be difficult for people to say no to.

Ms. Lau said they would now open the floor for clarifying questions and will start with the NSC Staff since the follow-up questions came from the NSC. Ms. Morrison said she wanted to start by thanking the Working Group for putting the answers together so quickly. She said she does not have any specific questions at this time, but she will bring it back to her colleagues to review it and get back to the NIAC as soon as possible. Ms. Lau asked if anyone from DHS had questions. Ms. Durkovich thanked the Working Group Members for taking the questions and taking the time to formulate the answers. She said regarding all the information that they were able to draw from the interviews, she had one question, one clarifying statement and one observation. She said in some of the dialogue she has had with the other SSAs, one of the questions has been if

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they are talking about one CEO from each sector or if they are talking about multiple CEOs from each sector. She said there is concern if one CEO can represent a complex sector such as Water. She would like that to be clarified as her office goes out and talks about this recommendation. Mr. Wallace said he can answer that and invited the other Working Group members to “jump in” as well. He said they had that discussion exactly to Ms. Durkovich’s point. He said this will not be just one CEO per sector for a number of reasons. He said there could be a conflict and the CEO might not be able to come to every meeting. It could also happen that a term in office for a government official is over and someone else is not immediately available, etc. He said they view sustainability of this group as very important. He said they suggested 3-5 CEOs per sector so there is some representation and rotational nature of who is able to be there, as well as built in sustainability. He said they would even consider some former CEOs because they tend to have a little more time than active CEOs but still have the relationships and credibility which may be helpful. He said in discussing that, they decided not to go that far to put it back to DHS to work with the SSAs to figure out who the representative CEOs are, and explicitly more than one per sector. Ms. Durkovich said she understood. General Edmonds said they also found in a similar situation, they have had a difficult time trying to get data from people to get involved at one time because they did not want to be bothered with a CEO committee. He said what they have to do with the staff, is once they have some of the “big guys” involved, such as getting the CEOs to the White House, more people will want to join the SIEC. He said starting out with 2 or 3 influential people per sector who will come, they will start to ask “when can we have a meeting at the White House?” He said the next thing that will happen is staff will start to say “you have to get my boss in this”. This would be utilizing the “outside looking in”. Ms. Durkovich said that she does not disagree but thinks that is something that is worth clarifying. She said in regards to the observation about the PCIS, she said the PCIS is the cross-sector Council partnership for infrastructure security. She said it is all private-sector, however the counterpart to that is the FSLC. There is a Joint Cross-Sector Council meeting twice a year with a set of joint national priorities and a work plan. She acknowledged it is not at the strategic decision-making level, but she clarified it is done under CIPAC.

Ms. Durkovich said her observation is about how it really got started down the path with the Electricity Sub-Sector Coordinating Council. She said earlier there was a NIAC report and recommendations on resilience of Electricity and what happened is that the CEOs and the trade associations passed a letter to the President in the wake of the Japan earthquake and tsunami acknowledging the recommendations in the report and the need for senior executives in government and industry to come together to solve an issue of national importance. She said that is, “do we have a plan for an event of significant national importance?” She said they want to better understand what are the roles and responsibilities of industry and what are the roles and responsibilities of government. That letter went to the White House, then it went to the Department of Energy and DHS. It was signed by the Assistant Director of Counterterrorism saying that they recommend meet with these senior executives. Ms. Durkovich said her observation was there is a group of senior executives on industry side that self-identified and “started the ball rolling”. She said they can go through the timeline of the things that happened, but it led to a sustained engagement where they have an annual work plan. However, she said as she alluded to in her opening comments, “if you can come to the table with that group of 10-20 with a work plan, my observation is that is a good way to start something.” She said that is how

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it all works. People are worried, they have this recommendation from a previous report, and they are ready to come to the table. She said the former Secretary of Energy was given direction from the White House to get to the table. Mr. Wallace clarified that the written report that they have submitted for the record, before it is put to the NIAC to approve, if they are allowed to add some discussion on the number of members to go with each sector. He said he is not fast enough to make up all the words right now. Ms. Lau asked him to “hold on” to that comment because they are not yet in the deliberations section. Ms. Lau then asked if there were any other clarifying questions or comments.

Dr. Scott asked how the process works once the group of 3-5 people per sector were identified and appointed. She asked if they remain forever and how is it refreshed. She said she is not a believer in lifetime appointments. She said she thinks it gets old and stale. She would like to understand how the group is formed,” how will it not always be the same 20 people”. Ms. Lau said Mr. Wallace can answer that, if the answer can be found in the material, otherwise it will be saved for the deliberations. Mr. Wallace said they did discuss how far they take the level of detail of which the SIEC is formed. He said they drew the line to stop where they did and then allow the Secretary working with the SSAs and SCCs to identify the Members. The Members would then self-identify and charter their meeting frequency, agendas, sustainability, and the membership. He said the Working Group chose not to go down any of that path but allow that immediate formation work, for the Secretary, SSAs, and industry side. Dr. Scott said she understood. Ms. Lau asked if there were any more questions from the Members.

Hearing none, she asked if there were any public comments. Ms. Barr said that there were no registered public comments. She said any written comments will be provided to the NIAC members and will be posted online. Ms. Silas then informed Ms. Barr that comments did not have to be pre-registered and that she could ask the audience if there were any public comments. Ms. Barr then opened the floor to members of the audience to make public comments. Mr. Scott Aaronson of the Edison Electric Institute, who also serves as the Secretary for the Electricity Subsector Coordinating Council (ESCC) had a comment. He said he wanted to make clear for the record that the ESCC supports the recommendations of the NIAC. He said because of experience from previous NIAC reports, he said he wanted to “foot stomp” one particular point. He said it was because the sector saw the recommendations, organized itself, came together and took on the recommendation. He said they see the value that has been discussed in this report and the deliberations that occurred several months ago. He said they have seen that value, but they also see the value of self-organizing, self-identifying and identifying people for appropriate role and organization for this to come together. He said the last point about the numbers of people, etc. he believes does need to come from the sectors. He said in addition to the ESCC report of this recommendation, without doing it passively and also engaging the other lifeline sectors identified and working closely with them and trying to come up with consensus across the strategic infrastructure sectors to organize themselves for an appropriate way to forecast and come together under the recommendation. He said he thinks the clarifying questions were incredible helpful. He said these are the same questions that the other sectors were having as well. He said that this would help as they continue to process and learn about those sectors and find a path forward. He said he appreciates the questions being asked and the questions being answered and looks forward to engaging with those groups. Mr. Wallace thanked Mr. Aaronson.

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Ms. Lau asked if there were any other members of the public who would like to comment. Hearing none, Ms. Lau said they would now move to the discussion and deliberation section.

Ms. Lau asked if there were any Council members. Ms. Lau started by saying that Ms. Durkovich made a very good point about the PCIS who wished to comment further. She said when she thinks about what happened in the Electricity Sector, there was an immediate need and structurally and legally, PCIS could perform the job just as the ESCC could perform the job, but it was not at the right level. She said in the report she thinks they could clarify that the SIEC could come out of a real organization or reinvention of PCIS, similar to the ESCC. She said the one question she would have is that it is a broader group, where the SIEC has identified only five sectors. She asked Mr. Wallace to comment on that. Mr. Wallace said they had a lot of discussion regarding a more constrained number versus a more expansive number. He said in the report, which he will emphasize again, they saw the need to focus on those which were central, as communicated by those SMEs they interviewed and the Working Group's own judgment. They said the importance of having a central, smaller group to move forward was critical. The centrality came around the ones they named and it is not quite lifeline because it has Electricity (as opposed to Energy) and Financial Services was added. He said there was much deliberation to get them to that exact point. He thinks that is a foundational issue that this be a group of 5 sectors and not 16. He said secondly, they can clarify that any other named group can do this, but what they suggested does not exist, a sustained CEO level group dealing with the types of issues that are high policy and strategy issues of national significance which CEOs can address quickly and aggressively and others in an organization cannot. He said constraining it at 5 was intentional and creating a new group of CEOs makes it different than anything else. He said he guesses one could take the PCIS and morph it, but the PCIS is working tactical issues that are meaningful to improving resilience to critical infrastructure. SIEC CEOs would be working strategy and policy issues at a higher level. He said with some thoughtfulness, the number was constrained to five and that is foundational, as well as senior executive engagement. He said in terms of the self-fulfilling prophesy, it is not a series of meetings that people show up to. He said they only show up if there is a mutually valued outcome that the industry and the government are working toward and it then becomes self-fulfilling. He said executives will bring high policy issues whether it comes from the government or industry, because they know that is where it can get worked on at that level. If not, it will be thrown off the agenda and go somewhere else in the critical infrastructure organization.

Ms. Grayson said as a follow up on some of the work that they did in the study, is to understand that this was a limited, very focused, very specific agenda that was looking for a decision to be made and have the right people at the table who can make a decision at that particular point without a lot of extra deliberation or reach back. She said these are the people who understand the problem, recognize the issues, are willing to work it and will make a decision on the spot. Ms. Durkovich asked if the people that they interviewed were senior executives from the five sectors that they seek to have part of the SIEC? Mr. Wallace confirmed, it was the five sectors, as well as Chemical as that was Mr. Kepler's expertise. Ms. Durkovich said that could be a starting point for this group, the interview subjects. Mr. Wallace said it could be, but he did not want to speak for any of them individually, but that could be a natural place for the Secretary of Homeland Security to reach back in each of those sectors. The recommendation was for DHS to

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reach back through the SSAs, which would be a natural way to do it because they are somewhat up the curve. General Edmonds said they went through a period of time where they were trying to establish what a CEO does. In the interviews, it became very clear that CEOs get involved when something is important and there will be a decision. He said they want to make sure these are decision focused meetings, in order to keep interest as opposed to “everyone show up and listen to briefings”. They want it to focus on strategic decisions or tactical decisions. He said in his mind he also envisions times where there will be conference calls from the White House or Secretary’s office, where s/he would say “we need you to do XYZ” and it might be one sector or two or three sectors. He said that is fine because there is interdependency between the different sectors. As they interview people, their sectors would be tied to energy, or electricity. They took the time to tie those things together. He said moving, changing and moving people needs to be based on the situation and/or emergency.

Ms. Durkovich said she would like to push on her observation on the power of free trade associations in 2012, particularly in the Nuclear Sector. They were self-organized and sent a letter on “here is the critical issue we think needs to be addressed”. Mr. Wallace said he accepted that observation and thanked Ms. Durkovich. He said what he would also emphasize is Recommendation 3, which says the Secretary of DHS should identify, clarify and articulate the national priorities. He asked “what is it that the government has as national priorities that need to be addressed, that are best addressed at the CEO level?” He said their overall tasking was to increase and improve CEO engagement. Part of the answer is to bring issues to the table that are relevant to CEOs to process. Ms. Durkovich said as part of the re-write of the 2013 NIPP, they worked to develop a set of a joint national priorities that help focus each of the sectors and help focus the work of the Cross-Sector Council/PCIS. Ms. Durkovich said she would make the argument that those joint national priorities that range from cyber security to incident response to risk management, that they are strategic in policy nature, they can also be operational in nature and tactical in nature. They are a joint national priority in industry and government. They were developed last year and the Secretary of DHS signed them and they are there. She said to have a self-organizing group come to the table and say “we think that this priority is of significant importance’... however it is done, they are there”.

Ms. Lau said at the morning meeting of the Water Working Group, many of the Members there had served on several studies. Water is the last of the four lifeline sector studies. She said they were remarking that a lot of the key issues are in every single one of those sectors. She said it may be that the White House would want to task NIAC with going back through some of those studies, though she is not sure if they need to do that much more work, however it may be necessary to determine what those key issues were. General Edmonds said he thinks Ms. Lau is right on target. He said in regards to the model Ms. Durkovich discussed, they do not want to do that because having external input into the process is the only way to get somebody to do something. Internal pressure will not do it. He said external pressure to look at the sectors and see who is willing and capable is a good way to get started. Dr. Scott said she is very supportive of the recommendation that came forth, but she thinks that “the devil will be in the details”. She said her observation is that it needs to be exactly what has been identified, profound issues. She said what they do not want to do, because in some respects there are pieces there that are not specifically appropriate for CEOs to participate in, is once they make something leave the CEO,

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you might get what you want if they are not really clear, which she said, “in other words, if I cannot be at that table from now on, I do not see much of a need to be participating if I am a CEO in the other part of the framework.” She said once they sanctify the big group, then a CEO may have been discouraged from having interest in being involved in other parts of the framework of normal day-to-day business. She said to her the difference is that they are saying it will be very profound, issue specific, cross-sector, etc. She said how this gets netted out and worked through, they want to keep those things in mind. Otherwise they may have a situation where more CEOs may not get engaged in existing SCCs and she thinks they need to be careful about that. She repeated that “the devil will be in the details”. Ms. Lau asked if there were any more clarifications.

Mr. Wallace said, for the final report they will make some additions, but he was not sure the final process would do that. Ms. Lau said that he needs to make them and they will all deliberate on them and they will be included in the final report if voted positively. Mr. Wallace said the additions are going to be the number of members for each sector as they discussed. It would be 3-5 to build in sustainability. He said the recommendation already says that they are surfaced by dialogue between the SSAs and the sectors, so that is how they are identified, 3-5 individuals per sector and they work as a group to establish their own charter, framework and other important issues to determine how they actually work and function. He said they would put a paragraph together under the response to Question 1 that would do that, if that sounds reasonable. General Edmonds commented that the NIAC team has been taking notes on what they have been deliberating on.

Ms. Silas then informed the NIAC that at this point they have three options, they can edit it right now by page, paragraph and line and what to include. Mr. Wallace said he did not think they would be able to do that right now. Ms. Silas said if they are not, then they need to table it or go with the recommendations as is. She said they could also change and vote on one new part and table the rest to change at a future meeting. Ms. Lau said she thought if they give Mr. Wallace a moment, he will know exactly where in the report the edits should go. Ms. Silas said that someone should write it out on the screen. Ms. Norris volunteered to type up the edits.

Mr. Wallace started, “the makeup of the SIEC”. Ms. Silas stopped him to ask where he was. He said it is Item 1, Page 5. He said it could go in front of the paragraph that begins, “The SIEC would focus on specific issues”. He said as a separate paragraph it is not terribly important where it goes because it will address an issue that is not exactly addressed within the other paragraphs. He said he would start with the words and then they can decide where to put it. He said, “The makeup of the SIEC would include 3-5 senior executives from each of the five sectors or subsectors drawn from the private sector as identified through the process provided in Recommendation 4”. He then read Recommendation 4, “The Secretaries of Homeland Security and Energy should work with other relevant SSA heads as their critical infrastructure counterparts to identify the appropriate CEOs or senior executive decision makers to participate in the decision framework”. He said he would like to add another sentence to that, “Further, the appropriate SSAs working with DHS would identify their membership in the SIEC. It is expected that the group will be self-organizing based on relevant and important issues and effective and efficient processes for addressing those issues.” Dr. Scott said, they would have to

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add “and public sector”. Mr. Wallace said that is already there in the second sentence, that the SSAs working with DHS cover the public sector. Ms. Lau clarified that Dr. Scott means state and local. Mr. Wallace said he is “using public and private in the most general terms like the NIPP does”. General Edmonds said call it “industry sectors”. Ms. Durkovich said that they have certain infrastructures. Mr. Wallace confirmed. He said he understands that, but they are not talking about the Electricity Sector as private sector or public sector. Dr. Scott said, “what about water?” Mr. Wallace said that is no different than Federal agencies. Ms. McDonald suggested changing the term “private sector” to “industry” to make it clearer. Ms. Lau suggested deleting the phrase, “drawn from the private sector”. Dr. Scott said that leaves it to the sector to decide. Mr. Wallace suggested “drawn from SCCs”. Ms. Lau said that there are sectors and subsectors. Dr. Scott said they could say that senior executives will be drawn from each of the five sectors and not say specifically where they are drawn from. Ms. Lau agreed. Mr. Wallace said “from the five sectors, as identified through the process provided in Recommendation 4.”

Dr. Scott said they should look at Recommendation 4, which is on page 8. Mr. Wallace said in the original report, Recommendation 4 is on page 3. Dr. Scott said she is trying to understand why the amplification is necessary. Mr. Wallace said it is to clarify how they are identified, what the process is. Ms. Lau said one of the comments that came up was that the sectors need to organize themselves. Mr. Wallace agreed. Ms. Lau continued saying this seems to put the burden on the government side to organize. Ms. Grayson said that is why the last sentence is there, but perhaps it is not in the right place. Mr. Wallace said in his mind, the intent was clear, that DHS works with the SSAs to work with their SCCs to identify the CEOs. He said that is not quite private sector self-identifying that is not what they recommended in the original report. They recommended that DHS would work with the relevant SSAs to identify the work with the SCC to identify who the CEOs would be. He said to clarify their recommendation was not to have every sector identify its CEOs, but to have the SSA work with the SCC to identify the CEOs in a collaborative involvement. If it were electricity, it would be DOE working with the SCC to identify 3-5 CEOs to represent the sector on the SIEC. General Edmonds said he does not think self-organizing is a conflict. Ms. Grayson agreed. Mr. Wallace said self-organizing recognizes they went to a very high level of how to get people. He said there is a lot to be established such as meeting frequency, charters, rotation of people, etc. Dr. Scott said she thinks that to the extent that they try to do too much amplification, by doing that, they in fact constrain or take away from the volunteer aspect. Mr. Wallace said that is why they stopped at the level of five sectors with 3-5 people each, and how the CEOs get identified. He said they are not self-selected, there is a collaboration between Secretary of DOE and the Electricity Sector for the electricity CEOs, Secretary of Treasury and the Financial Services Sector choose the financial CEOs. He said that is the way it was intended to be done. Ms. McDonald asked in that case if it should just be the first two sentences. Mr. Wallace said in the third sentence, it addresses the other issues such as the charter being self-organized. Ms. McDonald said she understood.

Ms. Barr said that they are now at the point where they need to review the language and the group needs to either accept it or not, or with what has been included and make any final edits. Ms. Grayson asked Mr. Wallace if he would consider saying “could” instead of “would” in the top line. Mr. Wallace said no, because one CEO is not acceptable, it needs to be 3-5. It cannot be eight and it cannot be one. Ms. Lau said it would be a minimum of 15 members. Ms. Grayson

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said she thinks the language on the screen is good. Mr. Wallace said he would suggest to put this addition to the present text on page five, paragraph two, before the last paragraph. Ms. Grayson agreed. Ms. Lau said she thinks they need to look at whether the reference to Recommendation 4 is correct. Mr. Wallace said he thinks it is. He clarified that he is not talking about Question 4, which was presented by the NSC. They are referencing Recommendation 4 from the original report.

Ms. Grayson the next step is that the recommendation for text be inserted into the document and then they will all vote on it. Ms. Lau confirmed. She asked if there were any other questions or comments to the report besides this addition. She said she would have Mr. Wallace read the addition to those on the phone since they do not have the benefit of seeing it on the screen. He read, *“The makeup of the SIEC would include 3-5 senior executives from each of the five sectors or subsectors, as identified through the process provided in recommendation number 4. Further, the appropriate sector specific agencies working with DHS would identify their membership to the SIEC. It is expected that the group will be self-organizing, based on relevant and important issues, and effective and efficient processes for addressing those issues.”* The recommendation is that it be inserted into the text at the point indicated in the notation below. Mr. Noonan and Mr. Rohde said that it made sense.

Ms. Lau then asked if there were any final edits. There were no other comments. Ms. Lau then asked for a motion to approve the recommendations with the added edit. General Edmonds so moved. Mr. Wallace seconded. Ms. Lau asked all in favor to say “Aye”. Everyone said “aye”. She asked if there were any opposed. There were no oppositions. Ms. Lau said that they now have their recommendations to be sent to the White House. Ms. Lau thanked the staff for assistance in this process. She then moved on to closing comments.

X. CLOSING REMARKS

Constance H. Lau, NIAC Chair

Caitlin Durkovich, Assistant Secretary for
Infrastructure Protection, DHS

Stephanie Morrison, Director Critical
Infrastructure Protection Policy, NSC

Ms. Lau invited Ms. Durkovich to make closing comments. Ms. Durkovich expressed gratitude and thanks for all the time and energy and hard work that goes into pulling these recommendations together. She said the recommendations certainly guide DHS' priorities. She thanked the NIAC for being responsive to the questions and continuing the discussion. She said that she hopes that these recommendations will be turned quickly before the next meeting. She said she wishes everyone a wonderful holiday season. She said as they go back to their places of work and their communities, she asked them to be vigilant and report things that do not seem right and suspicious activity. She asked them to relay that message to their staff and people that they know because it is a dynamic environment and it takes everyone to secure the homeland.

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Ms. Lau thanked Ms. Durkovich and turned the meeting over to Ms. Morrison. Ms. Morrison said in the interest of time she just wanted to thank the members for meeting with the NSC. She also thanked Ms. Lau and Dr. Scott for their leadership. She said as they move toward national preparedness, the NIAC's work is appreciated. She then turned the meeting over to Dr. Scott. Dr. Scott said that continues to be such an honor to have the opportunity to serve with this wonderful group. She hoped that everyone has a wonderful holiday season.

Ms. Lau said that Ms. Durkovich's closing comments reminded her of when the attack in Paris occurred, through the rejuvenated ESCC, they spread the message of "If you see something, say something". It came across very clear, and she said she thinks the CEOs in the Electricity Sector went back to their companies and underscored that across the population. She said it is great for people who are close to the situation to do that, but they really have to get the word out to each and every person in the country. She said with that, she wanted to thank everyone for coming and participating in the last NIAC meeting of 2015. She also thanked the members of the public and those who commented and participated. She ended by saying she hoped everyone to have a wonderful holiday season.

XI. ADJOURNMENT

Constance H. Lau, NIAC Chair

Ms. Lau adjourned the meeting.