U.S. Environmental Protection Agency
Environmental Financial Advisory Board

February 20-21, 2018

Held at

Willard InterContinental Hotel
1401 Pennsylvania Ave., NW – Washington, DC

EPA – 800S18001

Meeting Purpose

The EPA's Environmental Financial Advisory Board ("EFAB") held a public meeting on February 21-22, 2018. EFAB is an Environmental Protection Agency ("EPA" or "the Agency") advisory committee chartered under the Federal Advisory Committee Act to provide advice and recommendations to EPA on creative approaches to funding environmental programs, projects, and activities. The purpose of this meeting is to hear from informed speakers on environmental finance issues, proposed legislation, and EPA priorities.

Attendees

EFAB Members

- Aurel Arndt, Lehigh County Authority
- Brent Anderson, RESIGHT
- Lori Beary, Iowa Finance Authority
- Janice Beecher, Michigan State University
- Theodore Chapman, S&P Global Ratings
- Rudolph Chow, City of Baltimore
- Edwin Crooks, Transurban
- Hope Cupit, Southeast RCAP
- Lisa Daniel, Public Financial Management
- Yvette Downs, Strategic Management Systems, LLC
- Heather Himmelberger, Southwest Environmental Finance Center University of New Mexico
- Jeff Hughes, Environmental Finance Center University of North Carolina
- David Kane, Portland Water District
- Daniel Kaplan, King County Washington
- Suzanne Kim, New Forests
- Pamela Lemoine, Black & Veatch Management Consulting, LLC
- Thomas Liu, Merrill Lynch, Pierce, Fenner, and Smith, Inc. (Interim EFAB Chairman)
- James McGoff, Indiana Finance Authority
- G. Tracy Mehan III, American Water Works Association
- Chris Meister, Illinois Finance Authority
- James "Tony" Parrott, Metropolitan Sewer District of Louisville
- Marie Roberts De La Parra, BMB Construction Properties
- Eric Rothstein, Galardi Rothstein Group
- Joanne Throwe, Maryland Department of Natural Resources
- Angie Virnoche, FCS Group
- Jeff Walker, Texas Water Development Board
- Richard Weiss, Morgan Stanley
- William Stannard, Raftelis Financial Consultants, Inc. (Expert Consultant)
- Carl Thompson, Infiltrator Water Technologies, LLC (Expert Consultant)
- David Zimmer, Infrastructure Trust (Expert Consultant)

EFAB Members and Expert Consultants unable to attend the meeting:

- Craig Holland, The Nature Conservancy
- William Cobb, Freeport-McMoRan Copper & Gold, Inc.
- Jennifer Wasinger, Freese and Nichols, Inc.
- Linda Sullivan, American Water

Additional Attendees

- Kristyn Abhold, EPA
- Glenn Barnes, Environmental Finance Center University of North Carolina
- David Bloom, EPA Deputy Chief Financial Officer
- Sonia Brubaker, EPA
- Dr. Elliott Campbell, State of Maryland Department of Natural Resources
- Jennifer Cotting, Environmental Finance Center at the University of Maryland
- Alecia Crichlow, EPA
- Khris Dodson, Syracuse University Environmental Finance Center
- Jim Gebhardt, EPA
- Alex Herrgott, White House Council on Environmental Quality, Executive Office of the President
- Chuck Job, National Groundwater Association
- Timothy McProuty, EPA
- Dan Nees, Environmental Finance Center at the University of Maryland
- John Paladino, United States Department of Agriculture
- Michael Patella, White House Council on Environmental Quality, Executive Office of the President
- Jim Proctor, McWane, Inc.
- Michele Pugh, Wichita State University Environmental Finance Center
- Dr. Andrew Sawyers, EFAB Interim Designated Federal Official
- Pamela Scott, EPA
- Mike Shapiro, Retired EFAB Designated Federal Official
- Martha Sheils, New England Environmental Finance Center
- Ellen Tarquinio, EPA
- Sandra Williams, EPA
- Members of the public and press were also welcome to attend

Day 1 – February 20, 2018

Introductions & Opening Remarks

Dr. Andrew Sawyers
Tom Liu
Jim Gebhardt

The meeting began at 1:32 pm ET with *Andrew Sawyers* welcoming and thanking board members for coming to DC for the meeting.

Mr. Sawyers – thanked the EPA EFAB staff members for the hard work they put into planning the meeting. Mr. Sawyers introduced himself as the interim Designated Federal Official (DFO) and declared the meeting open. As the director of the Office of Wastewater Management, he oversees the Water Infrastructure and Resiliency Finance Center and EFAB as a part of that portfolio; WIFIA which is in the process of moving forward with closing their first loan; and the state SRF programs. The agenda for the next few days included exciting topics such as the national water infrastructure package which he is excited to explore with the board. Mr. Sawyers shared that he felt fortunate to be back with the board as he was a board member when he worked with the state of Maryland. The board has historically provided recommendations to the Agency for items to follow up on and focus on. There is a lot of urgency and interest in dealing with significant financial issues and looking to the board to help move solutions forward. They are particularly excited about the members' backgrounds and the mix of professionals and unique areas of expertise that they bring to the Agency. Mr. Sawyers introduced Tom Liu, the Chair of the Board.

Tom Liu – continued introductions, welcomed attendees, and thanked everyone for taking the time to participate in work groups and attend the meeting. He sat in on some work group sessions in the morning and shared that he could not remember a time when the board was addressing so many relevant charges and thought-provoking challenges. Mr. Liu said he looks forward to their recommendations and feels it is truly an exciting time to have five substantive charges at once. He added that everyone on the board is appointed for a certain reason and they all volunteer to be here. He added that the board is here to roll up their sleeves and develop these reports. He encouraged all board members to be part of the conversation, to join work groups, and to see where they can be most valuable.

Mr. Sawyers – brought up a couple of housekeeping items. He shared that he would be at the meeting until around 3pm on the first day and would delegate the rest of the meeting to Jim Gebhardt. Some members were not in attendance. The EFAB welcomed three new expert consultants to the meeting, William Stannard, Carl Thompson, and David Zimmer. Mr. Sawyers also acknowledged the press from Inside EPA in the room. He then went through the contents of the participant folders: speaker bios, member roster, list of experts, EFAB Charter, the Federal Register notice, the work group charges, and recently completed reports. The board is addressing five charges and it is important to make sure every member is part of a work group. EFAB has always been a working board and they expect members who join the board to roll up their sleeves and join work groups. If members are not signed up for that level of involvement they might need to find a different path forward. All the charges are important – Mr. Sawyers shared that regionalization is particularly important to them for improving the sustainability of wastewater and drinking water. There are a few other charges not discussed during this meeting that may be revisited during the August meeting. The dates for the next meeting will be sent out in the next couple of weeks.

He thanked the work groups who recently completed their charges. Those reports provided a lot of value that was communicated to EPA and they will determine which recommendations they can move on immediately and which they will need to develop a path forward for. He asked members to look through the agenda to get a sense of the discussion over the next two days. Mr. Sawyers also reminded everyone that the meeting is being recorded and asked people to speak clearly and identify themselves.

Mr. Sawyers acknowledged departing members of the board, specifically Mike Shapiro, the most recent DFO. Mr. Shapiro has been a mentor to Mr. Sawyers at the Agency and, as DFO, provided significant value to the board and agency over the years. After graduating from Harvard, he decided to become a public servant and has been the consummate public servant for more than 30 years. Mr. Sawyers personally thanked Mr. Shapiro for his contributions, saying that he went above and beyond to get the necessary resources to help EFAB move forward.

Mr. Liu – said that when he came on the board, he came because he had heard about the board's work and because he had some colleagues who were previously on the board. When he joined, the current Board Chair and many of the board members were just leaving. He started working with Mr. Shapiro and found that he really made people think and consider all the solutions. Mr. Shapiro has overseen many important work products including recent charges on lead mitigation and decentralized wastewater. His impact on the board includes not just the quantity of his efforts but the quality of his work and leadership.

Mr. Sawyers – provided some highlights about Mr. Shapiro's tenure with the board. Mr. Shapiro was the DFO from 2010 to 2017. During that time, he worked under two administrations, supported three Board Chairs, and ran 14 EFAB meetings. Mr. Shapiro's legacy at EPA included work in the Office of Land and Emergency Management, the Office of Air and Radiation, Region 1, and more. He has provided support across the Agency and his experience has helped the board and the Office of Water. Mr. Sawyers then handed Mike Shapiro a plaque commemorating his service to EFAB.

Michael Shapiro – shared that one of the most fun things you can be involved in at the Agency is EFAB. There are great people, great experiences, and great recommendations. He barely had to think about it before accepting the position and it has been one of the most rewarding experiences he has had at the Agency. He thanked everyone he had the chance to work with over the years, including the excellent support of EFAB staff. He instructed the board to keep up the great work and said that it had been a pleasure and honor to work with EFAB.

Mr. Sawyers – also wanted to acknowledge Tom Liu, EFAB Interim Chair, who is also leaving the board. He said it was a pleasure working with Mr. Liu and that he has always provided great recommendations and the foresight to think about long term impacts. In addition to his role as chair, he has also supported many work groups over the years. Mr. Sawyers thanked Mr. Liu for his service to EFAB as the interim board chair, work group chair, and as someone relied on heavily by the whole group. He finished by thanking Mr. Liu for his dedicated public service to EFAB.

Mr. Sawyers asked all the board members around the table to introduce themselves (see roster list above).

Mr. Sawyers introduced the first speaker, EPA CFO David Bloom. He shared that Mr. Bloom would talk about EPA's budget priorities. Mr. Bloom has oversight of EPA's budget and financial plans. Mr. Sawyers acknowledged Mr. Bloom's ongoing support to EFAB, and thanked him for all his contributions and for coming to provide thoughts about priorities in the budget.

EPA Budget Priorities

David Bloom

David Bloom thanked the group for having him in to talk about the EPA budget and strategic plan. He echoed Mr. Shapiro's comments about the EFAB staff who were part of his organization when EFAB was overseen by the CFO. The work they complete is essential and gets done because of the work the EFAB staff do. He thanked everyone for their continued support and involvement in EFAB and thanked new members for joining and for their service. The analysis EFAB conducts is important to the Agency so they can think through how to get the work done with limited resources.

Mr. Bloom started by discussing the current EPA budget. He said that at this time, the federal government was moving from continuing resolution to continuing resolution, that is their reality. Fortunately, they have only had two shutdowns, the first lasted only for a couple days and the second just a few hours. The agency was able to continue operations during those shutdowns because they had existing resources available that allowed them to stay open. The recent legislation keeps the government open until March 23rd. This sets the stage for the Agency coming to the end of this year's fiscal budget and sets the tone for fiscal year (FY) 2019. Current funding will take the government through March 23rd and has established a 2-year deal for funding caps for FY18 and FY19. It also put restrictions on overall budget levels. The caps provided an additional $63B and $68B in 2018 and 2019, respectively, for non-defense funding above the current cap; now, the Appropriations Committee will determine the funding level for each agency. Mr. Bloom stated that this process will happen in the coming weeks as they discuss and determine the budget. It leaves some uncertainty about the final numbers but the Agency will have some information about what they can work with over the rest of the year. It is just a matter of time and they will see where it lands.

Mr. Bloom continued that the Agency recently rolled out a 2018 – 2022 strategic plan. It is the first strategic plan under the new administration and sets a roadmap for EPA to better achieve its mission while improving processes and operational efficiency. The new plan emphasizes the administration's back to basics agenda. There are three main goals that the strategic plan focuses on to get the Agency back to its core mission:

1. Core work in air, water, and waste,
2. Cooperative federalism, and
3. Adhering to rule of law and improving processes.

They are setting ambitious targets with 27 strategic measures that go along with the plan. The goal of those measures is to shine a brighter light on areas to achieve major milestones. For water, they are setting targets to modernize and update water infrastructure. The plan calls on the Agency to leverage the SRFs to assist states and tribes. For air, the Agency is prioritizing activities to achieve ambient air quality standards. The plan directs the Agency to work with state and tribal partners to approve projects to improve air quality. For chemicals, the key area of focus is the Toxic Substances Control Act (TSCA) and EPA is working to meet statutory requirements to make sure chemicals get to market quickly. For land, the plan prioritizes cleanup of Superfund sites and the Agency will accelerate cleanup to reprioritize locations. He encouraged attendees to look on the EPA website to see specifics for the strategic plan.

Mr. Bloom moved onto talking about the 2019 EPA budget, which was also recently announced. The proposal asked for $6.146B for EPA, which is a 9% increase from the President's 2018 proposal and a 27% decrease from the 2017 budget. This amount reflects the President's mission to reorganize the executive branch, incorporates a spending cap, and sustains funding at current levels for the SRF and Superfund programs.

Mr. Bloom then provided some specifics from the FY19 budget. EPA has made significant progress in the last 40 years in the water arena. The budget for water is in line with an emphasis on infrastructure improvements. The budget includes $2.26B in funding for the SRFs and WIFIA is funded at $20M. With the SRF utilization rates at 98% and 96%, the programs are well-utilized. DWSRF funding has reduced lead exposure by replacing aging pipes and the Agency is looking for increased compliance with the Lead and Copper Rule (LCR). EPA will partner with states and tribes to move this effort forward and will continue targeted technical assistance to small and rural systems. They are also looking to improve protection from all hazardous events, and have a performance goal to reduce the number of systems out of compliance down to 2,700 by the end of 2022. Investment in infrastructure is necessary for growth and their efforts will support private and public investment. WIFIA, for example, is funded at $20M and can provide $2B in credit assistance. When combined with other financing opportunities, it can spur a total of $4B in overall financing. They are also requesting $84M for drinking water programs. In 2017, for the first time, 90% of tribal populations received drinking water from systems in compliance. EPA will continue working with states and tribes on the Drinking Water Infrastructure Needs Survey and Assessment (DWINSA) and Underground Injection Control (UIC) Program. The FY19 budget also includes $30M for the Great Lakes and $73M for the Chesapeake Bay Program.

Beyond water, EPA is looking at providing categorical grants to state and tribal partners. The FY2019 budget includes increased flexibility by reinstating the multi-purpose grant program, which will allow states and tribes the ability to better determine their own needs. The Superfund task force recommended 42 actions to drive progress, which supports the goal to accelerate cleanup and to focus enforcement efforts on actions not delegated to states. As of this time, none of the funding levels are final. The President proposes a budget, then Congress acts and they determine the final budget levels. In 2018 and for 2019, EPA will wait to see the final funding amounts for the Agency. Hopefully, the additional funding with the cap increases will impact the EPA budget positively.

The agency's reform plan efforts are also very important to the administration. The reform plan was developed in response to an executive order for a comprehensive plan to reorganize the executive branch. EPA has 11 reform projects, including implementing lean management systems at EPA. The reform plan also seeks to achieve organizational efficiencies and for the Agency to provide better services to external customers. The plan states that this will in part be achieved by streamlining reporting along with other efforts to manage programs at the Agency.

Finally, the administration has a goal to support cooperative federalism. This is a key component of the vision for the Agency. Environmental protection is shared between the federal government, the states, and the tribes. This relationship is embedded in environmental laws that provide states and tribes responsibility for programs. The relationship affects not just who but how decisions are made, and improvements cannot be achieved by single actors – efforts must be made in conjunction in the spirit of trust, collaboration, and partnership. Effective environmental protection is best achieved when partners work from a place of transparency, public participation, and shared accountability for outcomes. As the Agency focuses on this, they will strengthen working relationships with states, tribes, and local communities. Mr. Bloom thanked the board for the chance to speak and for their support.

Mr. Sawyers – thanked Mr. Bloom for speaking to the Board.

Discussion/Questions

Chris Meister – asked Mr. Bloom to go into a little more detail on the SRF programs. He said that it appears to him, from reading and watching the news, that the SRFs are a funding priority for the administration. He asked Mr. Bloom to provide more detail on the administration's perspective.

Mr. Bloom – said that Mr. Meister's comment was on the mark. The agency recognizes that the state SRFs are an avenue for infrastructure improvement. He added that they will hear more about the plan for the SRFs in the infrastructure plan. The SRFs will be supported at straight-line levels. With the overall budget coming down 20%, there is recognition that the SRFs are an important aspect to help the country move forward with infrastructure planning and improvements.

Yvette Downs – said it was her understanding that the budget came down from the 2017 levels. She asked how that will impact things.

Mr. Bloom – responded that the budget isn't down currently. The 2018 budget suggested a 30% reduction but Congress has not finished approving that budget, so EPA is still operating under a continuing resolution at the same levels as 2017. If you look at the House and Senate action on the 2018 budget, both proposed higher amounts than what the President requested but figures below the 2017 budget levels. He added that, hopefully, a budget cap increase will increase the allocations but at the current time they are still operating at 2017 levels. He added that the SRFs and Superfund program are straight lined and for 2019 there is a reduction across all other program areas. They are looking at the best ways to do business. They are looking to lean management systems and there is a focus for every employee at the Agency to be accountable and take a harder look at how they do the work they do to see if they can do it more efficiently and effectively. They are looking at opportunities in areas where there will eventually be reductions, but selecting the reductions where they can still achieve results for environmental protection.

Heather Himmelberger – asked him to clarify the goal for water system compliance. She asked if they want the number down to 2,700 and added that would maybe halve the current number. She added that the goal would be to cut non-compliant systems in half by 2022. They had mentioned LCR specifically but, with that large decrease, she assumes the reduction goal is not just LCR-related.

Mr. Bloom – responded that she was correct. The goal for reducing the number of non-compliant systems is part of the ambitious goals for the Agency. The new EPA Chief of Operations thinks it is important to establish ambitious goals for the Agency. They will see where they end up at the end of that timeframe, but there is a push to set stringent goals across all programs.

Ms. Himmelberger – replied that getting those systems compliant is tied into the budget discussion because it will require funding.

Mr. Bloom – said that it also gets into lean management and is not just about what EPA will do to help with compliance. They need partners involved as well and the folks on the board are all representative of those partners, especially the EFCs who provide important support to customers out there who need assistance.

Janice Beecher – asked Mr. Bloom to provide information on the EPA workforce and how much reduction they have seen in staff and how much they anticipate.

Mr. Bloom – replied that the Agency workforce has been decreasing for some time now. The cost per individual is going up and the budget is going down. In the 2019 budget, they identified a workforce level of 12,250, which is down from current levels of a little over 14,000. A lot depends on what Congress does, as the President's budget continues reductions, but they are waiting to see how it plays out.

Eric Rothstein – said that he had heard about more private sector engagement in infrastructure. He asked if there were any contemplated structural changes to the SRF or other major programs that are intended to incentivize private engagement.

Mr. Bloom – responded that the infrastructure plan speaks to that. In the WIFIA program, they include language about potentially expanding from water to Superfund or other areas. Mr. Bloom concluded his session by thanking everyone for their questions and their time.

Mr. Sawyers – thanked Mr. Bloom for his presentation. He also made an announcement that Joanne Throwe would take over for Tom Liu as interim chair until a decision from the Administrator is made on the chair.

Mr. Sawyers introduced Jim Proctor, who was going to present on water technology. There is a lot happening in this space; if you look at the President's infrastructure plan there are a lot of opportunities to focus on water technology and innovations. He added that they are looking to EFAB to help them through some of the finance conversations about technology. Mr. Proctor in the Senior Vice President and General Council from McWane Inc.

Water Technology and Infrastructure: Challenges and Solutions

Jim Proctor

Jim Proctor, Senior Vice President at McWane Inc., provided a summary of the work of an ad hoc coalition of water groups in water technology and infrastructure, focusing on the package of policies that they compiled for the Presidential transition team. McWane Inc. is one of the largest manufacturers of iron products in the U.S. and their portfolio includes basic building blocks for the country's infrastructure. Some of its operations have served this function since the late 1840s and Mr. Proctor has worked in water infrastructure for most of his career. He served on the transition team in late 2016 and was asked to come up with the policy package for water infrastructure. In compiling the package, he reached out to many water advocacy groups and asked for their best ideas on the topic. They collaborated and pulled together a package that was submitted to the administration. Very few of the ideas were new but it was the first time that this group had come together to get behind a consensus package. During their conversations in 2016, they started to pull together and wrap their arms around ideas that would make a difference. After the transition ended, the group decided to stay together and advocate for some of the ideas they had outlined in the policy package. For the past year, they have met with two House Subcommittees and a Senate Subcommittee and the administration's Council on Environmental Quality. They hope to continue to move forward and are looking to include additional groups that want to engage and help move in the same direction. They want to make sure they're including urban and rural systems, small and large systems, private and public perspectives, and challenges and solutions.

Their proposed policy initiatives center around three concepts:

1. Scale, consolidation, and partnerships,
2. Funding, and
3. Innovation and better and more effective management techniques.

Rather than focusing solely upon the technological items, he wanted to illustrate how all three could come together to solve infrastructure problems.

Mr. Proctor stated that the problem is considerable. The need ranges from $650B to over $1T dollars to fix infrastructure in the nation, which comes out to roughly $40B a year. In the context of budgetary scarcity, that is a huge nut to crack. The country cannot meet that through federal sources of funding alone. We need new sources of funding and need to change how we approach managing the work. The administration's package was released just before the meeting, and in the package, they want to get $1T for all infrastructure, not just water.

One issue to highlight is the issue of non-revenue water. Roughly 80% of water system revenues come from rates, rates that are charged for services the water system provides. However, 15-40% of water treated and sent into the system is either lost to leaks or does not get billed for. That is a large waste of a precious resource and the funding used to produce the inventory. If those systems were private, they would not remain in business very long with these rates of inventory loss. The estimates of the economic value of non-revenue water are all over the map, but it could be as much as $8M per year. EPA estimates that about 75% of non-revenue water could be recovered. That would be a potential $6M in additional revenue that could help fund the infrastructure crisis. There are multiple types of non-revenue water. Real losses include water that leaks out of the system and unmetered water that is unbilled under flat rate charges. Apparent losses arise from things like billing errors. There is also unbilled consumption from parks or flushing the systems. Some of these significant costs are included in utility budgets, such as the high-energy costs associated with pumping and treating water. Energy costs are typically the highest cost other than personnel for a water system. There are also costs associated with searching for and then repairing leaks. On top of that there are regulatory concerns. On the clean water side, there are something like 5,100 violators of various regulatory standards, with 4,000 serious violators. For wastewater, 66% of most major systems are non-compliant in some form with 20% in serious violation. Those system compliance issues are associated with fees and fines, and that money could go toward funding infrastructure instead.

Mr. Proctor added that there are opportunity costs as well. When funding is scarce, there is less in-house funding available to take care of maintenance issues and systems have smaller debt coverage potential which restricts borrowing. When they want to bring in private capital, the return on investment (ROI) is smaller so there is less interest in bringing that capital in the mix.

What can technology do to help the problem? A lot of the metering technology now in use was deployed in the 1950s, 60s, or 70s, which is an eternity for technological advancements. New technology can help maximize revenues and reduce costs in several ways, including proactive leak control, reduced energy costs, less wear and tear on the systems, and conservation. Overall management of systems can also be made more efficient and they can get data and use it to better deploy scarce resources. For metering infrastructure, sensors in the water system, deployed through valve boxes or hydrants in the distribution system can help locate and reduce water losses from leaks. Making metering more precise will also help because if customers have a better sense of real-time consumption, it incentivizes conservation which puts less stress on finding new sources and treating water. Capturing unmetered usages increases revenue into the utility's pocket. Metering tech can also reduce costs by reducing the need for manual meter reading. When you talk about conservation, you must be careful because encouraging conservation can also could drive lower revenues. There are ways to counteract that tendency by looking at decoupling rates for consumption. As an example, DC Water has two components to their water bills. The first is a flat fee and the second is a consumption fee. The flat fee covers infrastructure rehabilitation and repair. There are self-healing wireless systems that prevent the system from going down. You can put wireless nodes in caps, fire hydrants, or valve boxes and attach them to a sensor in or on the pipeline. It will detect leaks and save costs. By detecting leaks early, systems can avoid a lot of water loss and reduce costs to repair leaks. Leak detection also helps utilities avoid bacterial infiltration to treated water from line breaks, which reduces water loss from flushing out and disinfecting lines. Systems can also use reverse wave pressure sensing to see where the leaks are and the magnitude of the leak to prioritize repairs and replacement and mitigate the ultimate impact of leaks. Other technology, like satellite technology, can detect a unique green area in a brown landscape which might mean water is leaking out in the ground, which can help pinpoint where the leak is. Also, robots can be deployed in pipelines as an additional form of leak detection.

Another function where technology can be useful is in real-time water quality monitoring. In addition to detecting leaks there are also sensors that can measure pH and alkalinity, which are markers for corrosive water which can cause situations like that in Flint, MI. If a measurement is outside certain parameters, the sensor would alert the operators that the water is becoming more corrosive and may create a problematic situation. Similar technology exists to detect residual chlorine, and these tools allow operators to more effectively monitor and control water chemistry to head off potential problems.

Technology can help improve energy efficiency. Energy is the second largest cost incurred by utilities. As much as 20% of the energy consumed in the country is related to the treatment and distribution of water. There also are opportunities to cogenerate electricity and power to close the gap – examples include bio generation, solar panels in treatment and distribution facilities to help power pumps, in-line hydroelectric power in gravity fed systems, and thermal power. Portland is an example of utilizing some of these methods of powering water systems. Cogeneration is also another way to increase public-private partnership (P3) opportunities because cogeneration opportunities increase the potential for increased ROI.

Utilities face barriers to innovation, including:

- Risk. Utilities are very risk adverse. They cannot afford to spend money just to find out that the project will fail. Other risk related concerns include inadvertent interruption to water service, frequent absence of risk sharing with private partners, cybersecurity and privacy.
- Costs. Most utilities struggle to budget for existing operational needs, making funding new investments and technology difficult to achieve.
- The regulatory environment. Regulations are essential to protecting public health but many can also stand in the way of technological investment. For example, overlapping state and federal regulatory regimes aren't always consistent. Thus, one state might have one regulatory standard that has an impact on deployment and another state might have something completely different. When there are competing regulatory regimes, you need a different solution for each state or local utility where the standard is different. That lack of a consistent approval process across the systems can make it difficult to cost-effectively deploy solutions.

However, there are ways to help systems overcome these barriers, including:

- Partnerships and regional collaboration. These have been mentioned before and have been getting a lot more interest in the past few years. When talking about consolidation, it doesn't necessarily mean ownership transfer. For example, it might be a joint procurement agreement or a public-to-public, private-to-public, or private-to-private relationship; there are many different options that could come into play. Few utilities can afford to deploy technology at a reasonable cost unless they can achieve economies of scale. Consolidation can generate the scale necessary to reduce costs and facilitate participation. Promoting consolidation and regionalization through incentives is important. The SRF and WIFIA funds should prioritize regionalization projects and consolidation. It is referenced in the 13 prioritization criteria applicable to WIFIA applications and the same criteria could be applied to the SRFs to encourage cooperative ventures.
- Providing technical assistance to rural systems, not just to implement technology but also for the process of regionalization, can also help promote and enable partnerships. The process can be complex, unfamiliar and expensive. Providing assistance with process and costs can help. For example, a legal bill of $100,000 to negotiate a joint venture for a large utility might not be a big deal but even $10,000 for a small system can be a problem.
- Lifting the cap on the issuance of private activity bonds to increase private funding.
- Create Blue wave – a national program for collaboration and sharing of best practices. George Hawkins at DC Water has talked about this for a long time.
- Expand the EPA cluster program can help develop more technology and facilitate regional collaboration.
- Remove barriers to P3s by passing enabling legislation to allow private partnerships for utilities, making private utilities eligible for SRF funding, and removing constrains on assets sales.
- Empower and preserve local decision-making in the design and construction of utility systems.
- Creating regulatory safe harbors so that utilities that help get other systems into compliance are not negatively impacted by that action.
- Incentivizing performance, such as by developing metrics and allowing utilities to compete for funding based on performance. These could be based on improvement on performance measures and would provide utilities with incentives to be more performance-based and tailor funding in that way will help utilities support one another.

- Establishing a test-based network and prioritizing SRF applications that include deployment of new technology, including some incentives for innovation. That process could also be tweaked to be specific to technology innovation.
- Undertaking comprehensive review of regulations to identify regulations that may stand in the way of technological innovation. This could include maintaining a list of technologies that are already proven and approved.
- Encouraging states to adopt consistent and uniform permitting and certification programs.

In addition to technological innovation, we must change the management dynamic as well. One way to do this is to emphasize effective utility management, a concept endorsed by EPA and the major water and wastewater associations. One of the key tenets is financial viability, which includes full cost accounting. Effective utility management (EUM) requires understanding of the full costs of system operations. SRF requirements include an EUM component, but it is frequently waived in the application process. In the private sector, it is difficult to get a loan without understanding full costs. Taxpayers deserve that as well. We can drive utilities to EUM by prioritizing SRF applications that demonstrate an understanding of full costs at a utility, by enforcing requirements, and by providing technological and financial resources to comply with the requirement. It would go a long way to help utilities understand their full costs. Full costs should then be publicized so, over time, the public can understand the costs associated with management and operation of a system.

If customers are educated and systems can make a case for full cost accounting, that could lead to full cost pricing which can be a politically sensitive topic. Across the country, as a percent of household income, we pay less for water than other developed countries. Most utilities don't truly understand their full costs and, to provide a commodity reliably, the pricing of the commodity must come into line with the full costs. Those include day-to-day operations and maintenance costs as well as capital investment for long-term planning. If you look at the aggregate national level, moving to full cost pricing would do a lot toward solving our funding problem. Just going from what the U.S. charges on average to what Canada charges could generate $17.8B in additional revenue across the country. But there are two important considerations that must be addressed: one is affordability. If you move from \$1.50/m^3 to \$2/m^3, that would be $20/month for a family of four. That is not much to a lot of us but to those who struggle financially that can be a challenge. Some options to help address those challenges are: implement tiered pricing with increased use; provide low-income water assistance programs; or have a charitable program like what some electrical programs do.

Mr. Proctor put all of this together saying that basic management reforms, increased use of technology, and a modest increase in federal funding could go a long way to close the funding gap. He then showed some hypothetical numbers to the board and clarified that estimates for non-revenue water and leak repairs are all over the map, so they will vary significantly by individual community and that the numbers reflect national averages. Since water is delivered locally, the math won't work the same for every utility and they need to tailor the process for individual circumstances and needs. He also added that it will take time to implement these strategies but, in the abstract, they illustrate how a combination of what he had been talking about can go a long way to solving the funding gap for water infrastructure improvements.

In a rough and aggregate sense, he walked through what it might look like if some solutions were implemented across the country. They start with a $40B/year gap. A fully funded WIFIA, at $45M, could generate $2.9B capital at a 65:1 leverage. If you remove the cap on private activity funds that would be $5B, per the Congressional Budget Office (CBO). Increasing funding for the SRFs from $1B to $3B each would get to the remaining gap of $26B. You can get closer by reducing non-revenue water by 75%, reducing costs for repairing breaks, and adding the cost of technological investment. Finally, employing full cost pricing gets an additional $17B each year that can go toward funding these needs. The $40B perhaps becomes a much more manageable $1.7B number when you implement these changes and solutions. That does not take into consideration that you have additional P3s and private investment, and these are only a few of the issues and solutions that merit discussion.

He concluded with some key takeaways. The task is huge but, with forward thinking and creative responses, we can get close to closing the gap. A fully funded WIFIA, lifting the private activity bonds, modestly increasing the SRFs, and tweaking programs to incentivize regionalization, technology innovation, and EUM can make a difference in closing the gap. These are just gross aggregate numbers and would have to be deployed and implemented locally. That implementation would also need to consider the needs of consumers and communities. It isn't easy but those are some thoughts to start working with.

<u>Discussion/Questions</u>

Suzanne Kim – made a comment that the last page of funding numbers currently ignores the cost of conservation. Conservation would make the shortfall larger. What this is also ignoring is the cost of the technical assistance required to make these changes. That is significant whether it is funded through private or public capital.

Mr. Proctor – agreed with Ms. Kim and said that if full cost pricing or tech solutions are implemented and they demonstrate to users the cost of what they use, it could drive down consumption which could impact revenue. Some ways to reduce that impact are to decouple, to some extent, rates and usage.

Joanne Throwe – pointed out that he had mentioned DC and Portland in the presentation. The need is there for smaller communities when talking about collaboration. She asked if there had been any successful stories of regional small communities deploying innovative technologies.

Mr. Proctor – said he didn't have an example. Small communities sometimes don't have the resources or the technological expertise to overcome natural risk aversion. Some barriers can be eliminated by steps like increasing technical assistance available to small communities, by collaboration with larger utilities or a white list of approved technologies. Collaboration and helping these utilities develop the expertise, funding and scale are key ways to help overcome barriers.

Brent Anderson – asked if the assumptions considered the shift in demographics over time from rural to urban and that in that shift, some systems would not be replaced but their areas covered by existing systems. In terms of risk, did they think about risk-sharing mechanisms?

Mr. Proctor – responded that one way to share risk is through standardized contract that allocate those risks based upon performance. Anyone who has done business with technology companies knows that it can be hard to negotiate these contracts. As far as demographic shifts – it goes both ways. There is a migration from rural to urban areas, which depletes the rate base to fund these efforts but that is one area where regional partnerships could help counteract those impacts. However, the opposite situation is also occurring- people are moving away from once-large, robust urban areas into other cities or into rural areas. Those cities also lose their rate base with infrastructure that is oversized for the current population. That is one of the problems that Flint faces. Perhaps collaboration and innovation could help shrink the effective size of the system and thus address this over-capacity.

Mr. Meister – thanked Mr. Proctor for this presentation. He said he was curious about removing volume cap for private activity bonds. They issue a broad range of private activity bond and he thought the last time there was an issue on behalf of a public utilities commission it was right around the recession. As people may know the volume cap is not fully utilized now. There are over $100M that have expired because it doesn't have the economic benefit in value it once did. At the moment, from agency experience, the elimination of the volume cap would not have a big impact.

Mr. Proctor – responded that for the past several years he has advocated for this measure and understands the question about why you would lift the cap if it is not fully utilized now. The answer is that when you have a cap on the number of bonds you can issue, and that cap can fluctuate year to year, it can make it difficult for issuers to figure out if they will still have access to it in the future. If you lift the cap, perhaps it would increase utilization by giving issuers and underwriters more certainty. There is an example of how it might work: several years ago there was a shortage of landfills, which were subject to caps on private activity bonds. After the cap was lifted, you saw full utilization and within a few years the funding gaps were eliminated by giving investors more certainty.

Mr. Meister – responded that the predictability point is a good one. He pointed out that there were some SRF experts in the room and that was talked about a lot. It is elegant and harnesses the public sector but there are 15-20 states that don't appropriately utilize the SRF as a tool to expand financing. Underscoring the point of the power in the SRF might help communicate to states to do what they need to invest more in fully using the program. Drawing the line between delivery fee and the usage fee also has potential applications to water.

Mr. Liu – asked the board members to please limit their questions to just one so that they would have time for Mr. Proctor to respond to members.

Rudy Chow – said that, as a utility, they are always trying to shift from reactive to proactive. They deploy advanced metering infrastructure (AMI), replace their outdated billing system, conduct asset management, use GIS, and look at consumptive vs. infrastructure billing. They're already doing all the right things but 25% of their population is below the poverty line. They have tripled their rates and they're still only at $1/m^3. Now people are concerned about affordability and privatization of their water. There needs to be political will to march down this path because the practical side makes it hard to continue on course.

Mr. Proctor – agreed that everything Mr. Chow said was true. It is difficult to crack the political nut. One mayor said, "water never got me elected but it got me fired." That risk is there and real. The first step is education- helping people understand the cost of providing the essential commodity. That requires knowing those costs. As an interim step to full cost pricing, you can mandate utilities understand their true costs, then make that information available to communities so customers understand the costs and what we pay compared to other countries. That doesn't solve it all, but it helps get to a point where utilities can be self-sustaining.

Daniel Kaplan – brought up the topic of real-time pricing for water. He asked if there are communities here or outside the U.S. that have adopted it and used it for drought management conditions.

Mr. Proctor – responded that he was not aware of real-time pricing vs. real-time monitoring examples. He added that you could extrapolate from real-time monitoring to see what it would mean for ultimate pricing.

David Zimmer – stated that it looked like about $14B of funding in the example would come from debt. That would be about $750M/year so the second year the customers have $1.5B to pay back and that would continue over 40 years. They would run out of capacity. On paper the first year looks great, but the $14B disappears over time and doesn't become a funding venue over time because they will run out. The other side of that is, in New Jersey, you look at savings from putting in new technology and that is a significant number of the $750M so that would provide a cushion.

Mr. Proctor – put a different gloss on the problem. He said, when we talk full cost pricing, one question is what cost? As you deploy technology, you can reduce costs to a point where affordability becomes less of a concern.

Mr. Zimmer – added that they have had cash flow positive products.

Ms. Himmelberger – said one point to discuss is flat rates as non-revenue water. It is a completely different issue. For some places metering is very difficult, like in Alaska. They pay for the water, it just isn't accurate. Another is AMI – the manual read cost is sometimes so low or even free in rural communities that you can't make the AMI argument on costs. It is difficult in rural small communities to make the case for technology innovation and implementation. Non-revenue water savings to a 75% reduction will involve a significant cost investment to implement programs, replace pipes, and more. She added that she shares the goal and thinks it is great to reduce non-revenue water, but they need to look at all of it. The last page assumes the problem is access to capital. It assumes that there is money people want and they just can't get it, but some aren't even asking for the funding or leveraging the funds they already have.

Mr. Proctor – responded that, on the flat rate issue, there are a lot of communities that have per capita charges. If that is based on 6,000 gallons/month but they consume 10,000 gallons, then 4,000 of that is non-revenue water that is a loss. There are unique issues for rural communities and some of the challenges are much more critical in rural areas. If you believe Verizon and AT&T, there is cell signal all over the country now. For a large part of the country if you have a cell tower, you can deploy AMI.

Ms. Beecher – added to Ms. Himmelberger's point. There are a lot of ideas here but they need to be careful with the math. With non-revenue water, 75% is not only ambitious; it may be uneconomic. Additionally, these are static estimates for a situation that is very dynamic, and they would view debt and repayment of debt as a liability. These are increasing revenue requirements by a substantial amount and for something like AMI, water is not like electricity; that doesn't mean there isn't a place for it but it needs to be done intelligently. This is a great set of issues but the mathematics here don't work for her.

Mr. Proctor – responded that these are just supposed to be high level, theoretical numbers. He agreed with Ms. Beecher that all communities will be different. The point is, if you look at it in those broad terms, there are some things we can do to help get us close to solving the problem.

Ms. Downs – said she liked the big concepts and discussions and added that there are some challenges in making this a reality in many different municipalities. A lot of this is already implemented at large systems, like full cost pricing, and there are still financial problems – it doesn't solve everything. Looking at affordability is important and there are some regulatory challenges like what Mr. Chow was saying. Some states have regulations on how to create your rates. Even when you identify savings they're not money you can now take and do something else with. These are great and important things you put in the report and it starts a great conversation, but there is a lot more to do to make it a reality.

Mr. Proctor – responded that Congress could not pass a bill to make this happen this year and he understands that it will take a lot of time to get there, but there are things they can do now to help drive it in the right direction. For example, on state and local regulations, groups of states on a regional basis could come up with consistent approval and regulatory compliance schemes.

Aurel Arndt – said the comment most important to point out here is that there are a lot of difficulties cited in the small system arena, which is 80% of the systems in the country. They lack access to capital and they also lack the technical, managerial, and financial capacity to be sustainable. Even if they can find the capital, they would not utilize it to the fullest value or would wear out at an accelerated pace. For that part, on the drinking water side, the SRFs are vitally important for them to access the capital they need. However, the DWSRF is focused on compliance so you cannot do a lot of investments through SRFs for that part of the industry. To make inroads in small systems, you need to greatly expand funding above the level here or alternatively try to motivate and incentivize partnerships and collaborations, so they can partner with more sustainable entities.

Mr. Proctor – responded that there are 55,000 utilities in the U.S. In contrast, Australia has four. Somewhere between four and 55,000 would be more effective in managing systems. Partnerships is how to get there. It doesn't help to make cash available if utilities cannot use it effectively. The only way to get the right expertise needed is through consolidation or collaboration to get the skills needed.

John Paladino – said that when they say they don't have enough money as a country, that is wrong. We choose not to spend it on our infrastructure. As a former operator, he added that generalizing that small systems lack capacity is not right. They have a lot of skills and capacity and we need to continue investing in them. We need to keep trying to help private entities invest in water but it has been tried before and it has not necessarily worked.

Mr. Proctor – responded that the package included additional training and programs to train the workforce of the future. There are lots of good programs filling that need out there but when you talk about a project to deploy AMI across a system, that is a level of skills and expertise that are not covered in those training programs. Technical assistance to help them with those situations is important.

Mr. Liu – thanked Mr. Proctor for his time. He reminded the board members and other attendees to sign in at the registration desk so that the staff have a record of everyone who attended the meeting.

Jim Gebhardt reassembled the group at 4:12 pm and introduced Heather Himmelberger from the Region 6 EFC.

Community Resilience: A Critical Environmental Finance Challenge

Heather Himmelberger

Ms. Himmelberger – thanked the board for having them speak. Ms. Himmelberger informed the board that she was passing the role of President of the EFC Network to Khris Dodson. She thanked Mr. Shapiro and Mr. Liu for their involvement and support of the EFCs over the years. Ms. Himmelberger turned to the topic of resiliency, a major environmental challenge facing the country in rural and urban areas, in big and small ways. She added that everyone will face resilience challenges going forward. She turned the mic over to Khris Dodson to present resiliency as an environmental justice issue.

Khris Dodson – introduced himself as the associate director of the Syracuse EFC. They have been working in resiliency for a while in rural communities, looking at roadway asset management to help mitigate flooding in upper watersheds. They look at resiliency as an environmental justice issue and highlight flooding in the St. Lawrence River and Lake Ontario, both of which experienced prolonged flooding this year. They are thinking about urban and rural resiliency and looking at it through an environmental justice lens.

Jeff Hughes –added that the EFC at UNC has used Hurricane Matthew as an example. Hurricane Mathew came through and led to flooding and property damage in a segment of North Carolina with existing economic problems. The state treasurer is concerned about default and the Department of Environmental Quality (DEQ) was concerned about health. They are trying to stress test areas of the state to see how they can deal with storms that impact water and wastewater during and following storms. A lot of places in the state are losing 5-10% of their population per year and are just hanging on. Then with housing stock issues, there is another 20% reduction. Funders are looking at demographics like these and are running stress tests about future storms to see how demographics could be impacted.

Ms. Himmelberger – said they are also working with declining populations in rural and urban areas. The infrastructure doesn't shrink as the population shrinks, there are just fewer people to pay for it. She asked, what about the people who are left in the community? Looking at the maximum efficiency of infrastructure, there is a need to maximize efficiencies if we're going toward smaller populations. We should also think about the changes to climate and those impacts on tourism in rural areas. For example, consider a New England ski resort town without snow, how are they going to be impacted with changing climate? How can you make the community more resilient to those types of issues? As we go forward we need more investigation into addressing resiliency in those communities.

Martha Shield – shared that there is a Vermont project nudging resiliency forward in urban and rural areas. The New England EFC is addressing non-point source pollution all over Vermont, particularly in Lake Champlain watershed. A 2017 Treasurer's Clean Water Report identified funding gaps in stormwater needs and at the same time they have a surplus of unused SRF funding in Vermont. Vermont is trying to form a sponsorship program but they need legislative approval in the state. That program would allow green infrastructure projects, wetlands restoration, and would also allow private entities to borrow from the SRF in the future. From a Clean Water SRF perspective, the utility will borrow principal interest and an administrative fee. In Vermont there is no interest but there is an administrative fee. In the sponsorship program, the utility borrows for capital and non-point source projects. With a reduced administrative fee, they don't pay back any more than they would for capital alone so they get two projects for the administration of one. Iowa has done this and it is not insignificant. It is a great way to nudge forward resiliency. A lot of nonpoint source programs are designed to be watershed or river corridor based and are well set up because they think holistically about watersheds. There is a political aspect because in some places you can't really talk about green infrastructure. The economics make it a compelling option especially for SRFs with excess underutilized funds and clean water needs.

Jennifer Cotting – said trends are rooted in community based work in capacity strapped communities. They need help assessing capacity to implement and fund resilience projects. They try to help them understand the level they're at now and to take a step back and holistically understand their built infrastructure and existing systems. Water systems, stormwater systems, energy networks, economic systems at play – understanding those systems and their conditions and repair needs. In terms of resilience, it is determining where there will be opportunities to improve efficiencies. It is not just limited to physical systems but also policies and planning. Are the right codes and ordinances in place? Are the ordinances hindering or incentivizing resilience? Are other policies needed? Is there integrated planning to support communities? What are the funding and financing systems? Are they sufficient? Can we better use the dollars? Recognizing the scale is significant and public land availability can be limited. Where are the opportunities to engage the private sector as investors or just private property owners? This is where the EFCs play a key role in development of tools to assess the ability to address resilience issues and make sure things happen on the ground.

Ms. Himmelberger – concluded that a lot of the things the EFCs do will help in the resilience space. They need to find better ways to reach the people that need the support. Coming out of the resilience work group session this morning, there might be opportunities for the EFCs to engage in some things to help and collaborate between EFCs and EFAB. This is a huge challenge and it will take time to address it but we need to head in that direction.

<u>Discussion/Questions</u>

Ms. Throwe – said she understood and could directly see the value of the EFCs. Looking at investment, she said there will be $100M invested directly into communities in 2018 and the focus they're seeing is on resilience planning and activities. They don't want to put state investment in a community if it will be wasted money. She said they utilize the EFCs and consider them to be a great resource.

Jeff Walker – asked how the EFC Network defines resiliency.

Ms. Himmelberger – consider a population that has been cut in half over the past 20 years. They are faced with issues that any community in a similar predicament would face. But climate change is even more of a concern in a community with a shrinking, aging population and infrastructure to maintain. How do you do it in an efficient way given how communities shrink? Switzerland replaces pipes very quickly, which helps them adjust for changing demographics. We haven't had a chance to dig into it yet but they look at the size of the pipes when they change it and they're addressing demographic changes overtime as they make replacements. It is a hard problem to solve when they face other stressors and are also shrinking. The question is how to deal with both at the same time.

Mr. Rothstein – said there are different parties also working on environmental justice issues and declining population issues but he wasn't sure how they could coordinate their efforts. Detroit, an area with declining population issues, has profound environmental justice issues as well.

Ms. Himmelberger – responded that it is something they want to investigate as a network. They do separate projects, collaborate, and are looking for resilience issues and opportunities to collaborate. They will see the EFCs putting their heads together moving forward on this topic.

Ms. Downs – asked them to consider challenging methodologies as they think about resilience and population changes. They have a community using a model assuming population increase means consumption increase from the 80s but consumption was decreasing due to improvements in efficiency – they need to have accurate data and models to help communities prepare for the future.

Ms. Himmelberger – said that she completely agreed. She finished her presentation thanking Mr. Shapiro and Mr. Liu.

Jim Gebhardt – turned the floor over to Ted Chapman to provide the first work group report out of the meeting.

EFAB Report Out: Pre-Disaster Resilience Investment

Jennifer Wasinger
Ted Chapman

Ted Chapman thanked everyone for giving them the floor. They had a call a couple weeks ago to understand the charge and what each member would bring. They followed that up with a session during the morning with a fantastic discussion. Right now, the charge could go in many different directions. They want to frame the discussion so this becomes a useful product for everyone. First, do they need to redefine resiliency? They would build on the FEMA MOU that defines it. There is a lot towards flood control and stormwater but they should not ignore other events like drought and fire. The result would be like an insurance policy and getting the communities to think forward about investment. Most goes on at local or municipal levels and it is often the case that they go fiscal year to fiscal year. Maybe a larger community has more resources and can do more planning but it is often not conducive to think beyond the next 12 months. There are areas of opportunity, like using traditional municipal financial reports to plan for the future. They can get into the nuts and bolts but there are other ways to encourage that mindset and it would be inclusive of making sure grant programs are also aligned and collaborative across agencies like the Army Corps of Engineers, EPA, and FEMA. Also, it could promote tools from EPA and AWWA. They could dust off the Vulnerability Self-Assessment Tool (VSAT) and tweak it to be used to calculate the economics of projects and whether they make sense. For most projects, they won't be able to pay as you go; they will be capital intensive and will involve borrowing. Generally, Wall Street is interested in yield and preservation of capital but others are also looking at environmentally responsible investing. There are additional areas of opportunity that could be a carrot opposed to a stick. In New Jersey, municipal utility authorities are encouraged to have asset management. It is important to encourage them to lead and change their mindset. We had a deep discussion about financing and funding and the gap and where it would come from. We feel it will be incumbent on local leaders to have forward looking discussions. There is a lot of research already done. There was some discussion about affordability and looking beyond the U.S. For example, in New Zealand the World Bank has done research, and in the U.S., there are politically palatable projects like those following Superstorm Sandy. Regionalization must come into the discussion. We're not saying the disparate systems need to become one system but there needs to be coordination and collaboration. Getting back to financial reporting, utility assets are greatly undervalued. The municipal model may not fully give credit to the systems for how much those assets are worth. Next steps for this work group are to parse out aspects of the charges and have follow-up discussions. They have had good discussions about the scope so far and they could go in a lot of different directions with this right now. They can be more focused and will have the steps underway to take the charge and run with it and provide feedback very soon.

Discussion/Questions

Ms. Kim – said, regarding socially responsible investing, that the SRI investors don't just invest because it's a good thing. It is primarily for yield.

Mr. Chapman – agreed and said there are those who want to be able to represent in their portfolio in a section that is socially responsible.

Summary of Day One

Jim Gebhardt
Tom Liu

Mr. Liu – started the summary and closeout discussion for Day One. He said they started off strong and it was great to see Mr. Shapiro back with the group. He added that they had a good discussion with David Bloom and Mr. Liu was interested to see how the administration impacts the budget. It was also good to hear about the 2019 budget, which is on the website if attendees haven't seen it yet. They also had a productive discussion with Jim Proctor. It was good to talk about barriers and overcoming barriers to investment. He thanked the EFCs for providing their update and for all the work they have done in the regions. He also thanked Mr. Chapman for providing a work group summary.

Mr. Gebhardt – said that, although they just had one report out, the work group meetings this morning were very productive and the composition of charges directed towards water – resiliency, regionalization, Chesapeake Bay economic drivers, and linking in P3 – had a lot of linkages. The Alaska backflow charge is unique, and there will be a report out on that tomorrow.

Alecia Crichlow – provided some logistical information about the group dinner.

Mr. Gebhardt – let people know that the board roster was in their folders. He asked the members to look at their contact information and double check the accuracy. If anything is amiss, let someone at the finance center know.

Ms. Crichlow – added that people should also let someone at the finance center know if they want to be on a work group that they are not currently not assigned to.

The meeting adjourned at 4:53 pm.

Day 2 – February 21, 2018

Opening Remarks

Dr. Andrew Sawyers
Tom Liu

The Board reconvened on Wednesday, February 21st at 9:05 am.

Mr. Sawyers – began the meeting and said he was sorry to have missed the discussions the previous afternoon. He thanked the board members for attending the dinner and said he hoped they all had a good time. He said he would pass the mic to Mr. Liu and then share some thoughts about the priorities within the Office of Water and the Office of Wastewater Management. Some of those priorities will adapt or change based on the President's infrastructure agenda but he would not get too much into that. He also told the board that Alex Herrgott would provide the President's perspective in his talk as he played a critical role in that agenda including many principles that EPA will follow. Mr. Sawyers said he would talk more about brownfields, Superfund, and utilizing the SRFs to advance those types of projects and programs.

Mr. Liu – said there were some good, insightful sessions the day before and that dinner was enjoyable as always. He thanked the EFAB staff for organizing the meeting and dinner. He added that they would also have additional report outs from the working groups later in the day. Mr. Liu introduced Tracy Mehan and Ed Crooks, who were unable to join the board during the first day of meetings.

Mr. Sawyers – reinforced that there would be important conversations during the second day of the meeting. He was particularly looking forward to the report outs. Regionalization is important and would also be covered in Mr. Sawyers' remarks about agency priorities. WIRFC would share what they're working on as there is a lot happening in that space right now. They are looking to align work in WIRFC more closely with EFAB and want to get a deeper dive with some of the charges. EFAB must have the ability to provide a deeper dive on some issues and to help the Agency with a path forward. WIRFC is helping with that as well. Hopefully, some of the current EFAB charges will also do that. Regarding the metrics conversation on the Chesapeake Bay, there is a lot of applicability there for Headquarters and Region 3. They spend a lot of time on P3s and there will be a report out on the most recent work there. There is also a recent product developed by UNC that looked at nine P3 projects in private and public sectors and the criteria that made them successful or not so successful. They will talk about that when they get into P3s. The Alaska revenue model is one we've spent time thinking about over the years, and any infrastructure project in Alaska is difficult based on location and geography. They need to think about how to help move some projects forward. Finally, they will also go over the lead risk and recycling reports. Mr. Sawyers opened the floor for anything anyone wanted to reflect on from the previous day.

Office of Water Priorities

Dr. Andrew Sawyers

Mr. Sawyers thanked the attendees for joining them and as indicated they were at a critical time for water infrastructure investment. He added that he had talked to a lot of the board members and some of them also talk to Congress and others about next steps. Particularly important is the collage of ideas, that there is no single mechanism to structure the path forward. There needs to be a holistic strategy with critical pieces that are implementable. He appreciated the broad diversity of interests from associations, states, customers, and other stakeholders and added that they're at a place with an opportunity to provide critical advice to the Agency to charter a path. The administration has been engaged in infrastructure issues and they're thinking big about opportunities to change the landscape and incentive.

As David Bloom mentioned during his presentation, a key focus of the administration is on cooperative federalism and engagement. In addition, David Ross, the Assistant Administrator of EPA's Office of Water, has similar focus areas: infrastructure, LCR, PFOA, PFOS, nutrients, and engagement. He added that when they think about what is happening in the Office of Water, there are seven major areas to focus on:

1. The issue of assessment and communication of needs, specifically on the clean water side. For drinking water, there is SDWIS, but they haven't done a clean water needs survey since 2011 due to resource constraints. They need to do that and will look to associations to help identify the actual needs so the Agency can focus efforts. The have developed the Water Finance Clearinghouse, which provides information on available resources and funding resources. When they talk about wastewater, it is about the number of systems. They need more information about those systems. In addition, they need to refine the information they have about drinking water utilities. As they focus on infrastructure efforts, they need to account for and communicate accurate needs.
2. Partnership collaboration and alliances. This is often referred to as the issue of regionalization but it is more than that. There are currently 53,000 drinking water systems and close to 16 or 17,000 wastewater systems in the country. Often you hear there is a need to collapse them into a smaller footprint and adopt models from elsewhere. There are a lot of issues to consider when thinking about that. It is necessary going forward to streamline and make more effective management of drinking water and wastewater systems, but we need to look at opportunities to expand how they're managed. When we think about governance, we think about a structural or operational approach but there is a need for both. Given the number of systems we have, it will be difficult for them to operate sustainably long-term. It will be important to show and highlight physical reductions and/or efficiencies in the number of systems and policies that promote long-term sustainability of the sector, and incentives to make the changes happen. They need to continue to think about technical assistance and opportunities for small and mid-size systems that need assistance. They need to bring federal and state partners into the conversation because there is a lot that needs to happen in the space to share best practices across organizations. Regarding the idea of alliances, that is an area EFAB will help the Agency with and it is also an area they cannot afford to not focus on. The concept of partnerships, collaboration, and alliances is critical for this group and the whole sector to make sure they have the appropriate management for drinking water, wastewater, and stormwater in the country.
3. Asset management. The board has focused on asset management over the years and, when you think about infrastructure challenges, typically difficult challenges are in low-income or smaller capacity communities. They move forward with a fail and fix approach and that is not the right way to operate. Many systems also have inadequate maintenance and they need to start doing a better job in mid-size and small communities. Many large systems are doing a good job with asset management but we need to do more to support smaller and medium-size communities. Life cycle analysis of the assets and how they're valued over time is needed. This is not an area with a current charge for the board but the Office of Water continues to focus attention on asset management. Teams in the Office of Ground Water and Drinking Water and the Office of Wastewater Management are helping through technical assistance-type work to move the asset management conversation forward.
4. Data and technology. Here there are two things to focus on. The first is issues of addressing data gaps, determining what the actual need is for sanitation and access. They need to determine what the financial and operational gaps are. The second is the idea of implementing new technology. Having talked to technology providers and analysts, this is a critical

path forward to implementing new technology. There is a lot of capacity to operate more sustainably and technology will help them do that. More importantly, new technologies out there will help smaller communities address revenue gaps, operational gaps, and ultimately not just improve public health and water quality but also help them grow their local economy. Analytics, sensors, GIS – there are a lot of ways to move the needle forward in terms of technology and to help the larger infrastructure conversation and assist smaller marginalized communities.

5. Resource models and markets. There has been a fair amount of conversation on the team about this, specifically on the wastewater side but there is also interest in examples from the drinking water side. Many big or mid-size cities and communities have declining populations and revenues. There are circumstances that get them to the point where they don't have the revenue. How do you become sustainable without adequate revenue from customers? What other ways are there to generate revenue? Many systems are actively generating additional revenue from profitable waste products, generating new markets, and resource recovery. What is the capacity to help here? Also, this is something to think about for small and mid-size communities. The capacity may not be there but there is opportunity to explore this area specifically with green infrastructure in their office and resource recovery and governance models. There is an example in Chicago with investor-owned utilities and cooperatives from an environmental justice model. They have six or eight communities that own the systems and sit on the board and they could expand that where residents or customers own the system. the interest in responding to issues significantly increases. This is an opportunity area to explore going forward – the idea of generating additional revenues and generating new markets in the sector. There is a lot happening here now and they need to galvanize and focus it to develop models that can be shared.
6. Affordability. Again, many systems are fully leveraged. Often they find challenges, like resource constraints and concerns around affordability, difficult to overcome. There are many issues in smaller communities and concern about the obligation to finance. How do you finance with limited resources? An October report for EPA focused on a new definition for affordability and a framework to utilize for affordability going forward. Once the report was complete, it was clear how complicated the issue is. Looking at full cost pricing, there are different models to create revenue for communities at a disadvantage. Key things it highlighted were: the need to have publicly available data, the need to clearly define and understand affordability issues, the need to be simple, direct and consistent, and the need to use valid and reliable measures/metrics. When talking about affordability metrics, they need to measure to validate and utilize not just on broader scale but measure to potentially cut across boundaries. They should be able to compare metrics and data across different permits. In addition, it is important for EPA to talk about the aggregate cost of water. The October National Academy of Public Administration (NAPA) report said that drinking water costs should focus on income, vulnerable users, and how to identify households, not just communities. One question is whether to focus on revising the 1997 guidance revision on CSOs. Consensus on their team is that they should go beyond the CSO guidance and revision and start thinking about affordability from an integrated framework perspective going forward. Drinking water and stormwater need to be a part of the conversation. It isn't just CSO affordability issues and as they expand beyond CSO, they must broaden and change the framework. They need a lot of support within the Agency to see what an integrated affordability framework would look like. There is a lot in the 1997 guidance and from some EFAB reports. Those will be the foundation for the framework going forward and the Agency will look to EFAB to think through what is possible.
7. Workforce and labor. When you think about the water sector and moving the infrastructure agenda forward, for utilities you work with you need to introduce new thinking. Not a lot of new professionals are gravitating toward working in water systems. They need to drive interest in those areas. The SRFs and the financial arm is well developed but on the operations side, there is a need for adequate reserves going forward.

Mr. Sawyers concluded that those were the important ideas for a path forward for the drinking water and wastewater sectors.

Discussion/Questions

Ms. Beecher – wanted to second the point about data and that it works across sectors. When they want energy information, they go to EIA. They've been seeing some struggle for data collection and they only have EPA for the drinking water and wastewater sector. They talk about how they define and understand these problems and understand the need to step up needs assessments and data collection because it is a huge public service and benefit.

Mr. Hughes – said that he wanted to support the idea of taking affordability beyond the CSO financial capacity guidelines. In their work, those guidelines are referenced as if they were written for them specifically. They are looking at a 1997 guideline for CSOs when it isn't the right fit. That narrow construct is being used for many policy questions so it would be good to start from scratch and have a wider perspective.

Mr. Sawyers – responded that the question is should they start from scratch? Could they use some of the 1997 guidance and other existing materials to develop the new product or products? They need to get started in the next few months and we hope to have some form of a product in about 18 months.

Mr. Hughes – clarified that they don't need to start from scratch but they do need to clarify that the CSO guidance was for a narrow policy audience. Many are using that guidance document for making decisions on subjects it was not meant for. If they do nothing more than expand and clarify that, it would be helpful.

Marie Roberts De La Parra – said that, for communities that don't have access to parent systems until they become broken, they could create workforce development programs in those communities so they can implement and design systems that can be maintained on an ongoing basis. That would also be something the administration would buy into promoting for self-help in those communities.

Mr. Rothstein – turned the conversation back to the affordability guidance. He has been involved in some negotiations using the affordability guidance for utilities. If the systems have any level of sophistication they just blow past the existing guidance. They do it and give it to EPA to satisfy the requirement and then go on to develop different information to meet their own needs. Consent decree negotiations he has been involved in have been with large utility communities with legal staff or NACWA members who know the drill. The existing guidance is acceptable as a gate keeper and for all the other folks who don't have a big legal staff and sophistication, they're looking at the guidance and using it in different ways. The steps some big utilities are using to negotiate adequate consent decrees are notable in that they are the same practices we would ask utilities to do for basic utility planning work. It is just good basic financial management practices. It is fundamentally what is required to go forward, to show evidence, and to issue debt and meet obligations. Starting from scratch is not the central point. Issues of affordability are centered in basic sound financial management practices. If they can change that paradigm, small systems who need capacity development, they should focus on that. They will then have a base of knowledge and financial planning to address affordability issues.

Mr. Sawyers – responded that one thing he wants to focus on is the 1997 guidance focused on CSO communities and trying to figure out the level of relief necessary. It was designed to be a simple framework. As they start to expand this into a broader integrated framework, it becomes more complicated. Medium and small size communities across the country that don't have a legal budget – how do they use a more complicated framework? They want to make something useful for all utilities but it needs to have utility to the small systems. EFAB is a financial board but it is something he struggles with, to make sure it has relevance for all communities that need it.

Mr. Chow – added that affordability is a focus based on his market and it is connected to other points raised, like regionalization. If you want to incentivize regionalization, you need to recognize affordability of neighborhoods or systems varies. Having an average number doesn't work. Having flexibility in the definition and recognizing that some communities vary in how much they can afford, is vital. The practical side needs to be taken into consideration. He added that he was encouraged to hear they are looking at a truly integrated approach.

Mr. Sawyers – responded that Mr. Chow had pointed out another complicated thing, that many systems are starting in entirely different places. There is no single approach to address needs for all systems so they will be looking at a customized effort. These are issues they need to think about because a single simple framework, which is ideal, may not be practical.

Tony Parrott – said there is a Senate bill sponsored by Senator Booker and Senator Capito for workforce development. It would set aside funding for utilities interested in community education to encourage youth to seek career paths with utilities. It would make sure people are there and trained to do the work. The bill has been endorsed by many organizations and the legislation has been filed.

Mr. Sawyers – said there was also an effort in USDA to provide something similar. Generally, EFAB doesn't take positions on those things but they might provide advice to the agencies involved.

Mr. Chapman – said that as far as affordability issues go, whether it is a redo or clarification, that the credit rating agencies would welcome that and they do use it. When they revised their approach, they used USDA country-wide poverty levels. But you can't just look at one rating factor. Take poverty, for example; there might be hypersensitivity to rate adjustment decisions based on the customer base. Something to consider could be potentially introducing deferred maintenance. That is relevant to credit in the view of the credit agencies. They took the 1997 guidelines and use it absent better information. Adding on the additional poverty layer is relevant but if there was something newer and better they would incorporate that into their process.

Mr. Sawyers – said that they would have a conversation about that aspect as they develop what the framework is.

Ms. Throwe – added that there is an opportunity with the workforce piece that Mr. Parrott mentioned. That is not a direct charge for EFAB but is something EPA could consider. Maryland launched a workforce development program for environmental activities and they have seen overwhelming response from people applying and companies interested in the program.

Mr. Liu – asked Mr. Sawyers if there was a way for him to share the National Academy study on affordability with the board via email to help them get up to speed on the recent efforts.

Mr. Sawyers – responded that it was publicly available and that he would provide a link to it.

The President's Infrastructure Initiative & Streamlining the NEPA And Permitting Processes

Alex Herrgott

Alex Herrgott introduced himself and thanked the board for inviting him to speak. Michael Patella, on detail from the EPA's Water Finance Center, is currently a senior advisor on infrastructure to the White House. Mr. Herrgott is currently the White House Council on Environmental Quality's associate director for infrastructure. Prior to that position, he was deputy staff director for the U.S. Senate Committee on Environment and Public Works. During his 13 years in the Senate, his principal responsibility was all water sector resources and had a hand in drafting several pieces of infrastructure legislation. He said he felt like he was in the right room, recognizing that this group was infrastructure's key constituents.

One exciting thing right now is that infrastructure is one of the three principal activities that the White House thinks that it can make immediate progress on. The three are health care, tax reform, and infrastructure. The White House is in the middle of their rollout of the large-scale infrastructure package. Mr. Herrgott noted that, as a staffer, he struggled with the way industries look at funding streams; they were stove-piped by asset class and jurisdiction. We have the highway and transit bill, the SRF bill, and the WIFIA program, but we didn't allow for the use of municipal bonds because there would be a lost score for joint-community tax so we had to fix that two years later. Instead, this approach attempted to figure out how to holistically fund infrastructure as it relates to the federal programs. As a result, the infrastructure team noticed incongruencies when it comes to talking to asset owners. A very eye-opening experience was that, while Congress was trying to pass the Water Resources Reform and Development Act (WRRDA), they had the situation in Flint, Michigan. The next day he flew up to Flint to tell them they needed to ask the federal government for support so that he could put something close to $100M into direct response money to meet their needs. Those are things that happened to an EPA program on an Army Corps bill. This administration wants to be asset neutral and look at all infrastructure in a rational way that attempts to smash the stovepipe framework. At the core, that will be a tremendous opportunity to step back from existing programs and discuss how to fix the 53,000 community drinking water systems in the country that are far beyond their useful life. Support is being provided now but it is only triage. They're working with the 13,000 clean water systems that have a different funding stream and who are working within 5 or 10-year windows. Mr. Herrgott said that we are the greatest country in the world and we look at infrastructure as a public good that is hidden from the users. We have not connected the true costs of these assets to the user. In a room in Boston with 6,000 legislators, he asked people to raise their hand and answer what unit of measure they pay for water. Only three people raised their hands. How can we begin, at the federal level, to talk about how we will explain the true cost of infrastructure and public use if no one knows that they're paying now? We find ourselves in these silos about what is or is not affordable and appropriate. So, how do we fix the problem? How do we take a step back and figure out what makes the most sense? He added that he doesn't want to fight with Rural Water or about WIFIA cannibalizing the SRF. He doesn't know if it is the best approach to pump $5M into the SRF but we need a new way to do business and one way to do that is to harness ingenuity in the private sector. We can allow them to have a more outsized role in how we fix the estimated $50B in deferred maintenance at drinking water systems. We hear all different numbers and stories as we try to fit a square peg into a round hole.

What the President wants to do is give a discretionary grant program to EPA through the incentives pot, the largest part of the plan, and have project applicants take stock of what they own and what they need. Maybe it could be regionalization/consolidation or maybe it is a P3 model. Hopefully, there will be 500 different permutations of the model. The bottom line is that there needs to be new opportunities for asset owners to come to the federal government and be treated like customers and get the tailored help they need without worrying they are wasting precious resources. That is what they are talking to authorizers and appropriators about establishing. With a couple of targeted statutory reforms in the bill and the money piece tied in with the One Federal Decision MOU, which they're working on as part of the executive order from last year, they have all three pieces to help honor the promise the President made. This will help them find a tremendous amount of funding to help increase the pie to fix the problem. They will remove statutory impediments that handcuff asset owners and figure out how the federal family can transform the status of asset owners as adversaries to one of customers in the environmental relief process. If they can do all three of those objectives, that would be one of the most important things this Administration could do. The legislative piece is something that they are working around the clock to try to implement and work with the Hill on. No matter who you are, there is a tremendous paradigm shift that is happening with the infrastructure package. It is basically saying, bring us your projects with primary objective criteria and tell us: How much revenue are you bringing? Are you considering operations and maintenance and rehabilitation costs for the asset? In the old regime, there are permissive and suggestive materials in the SRF pushing philosophical and managerial preferences onto the asset owner. There is no real accountability. In this model, they are pulling philosophical and behavioral changes out. Also important to note, this is a supplemental program that sits on top of the existing programs to create a policy outcome with a supplemental infrastructure funding component that does different things for different asset classes.

Mr. Herrgott opened the floor for questions.

Discussion/Questions

Mr. Zimmer – commented that in the beginning it sounded like Mr. Herrgott was emphasizing the supply side but it isn't the supply side on the ground, it is the demand side. All water is local and there are local elected officials putting money into systems that no one sees or cares about, because if they raise rates they won't have a job in the next cycle. Unless you're giving those funds away for free, most of those people aren't focused on the right way to optimize.

Mr. Herrgott – responded that this isn't about adjusting rates. They have found themselves at conferences having conversations with people about the concepts of fixing the problem and they understand that those people need political cover. The existing federal regime creates a grant mentality that is a substitution for raising state and local revenue. Those are local decisions at the end of the day; they aren't pushing them but they are providing an incentive. There is a pot of money at DOT, EPA, and other agencies to see holistic programs – not just one project but a program of projects. They're not playing in the traditional sphere. This is supplemental to increase the overall pie. They now get to take a step back and fix the problem by getting the policy right and selling it. Then they will sell it on the Hill. They aren't asking people to pay more for what they get for free, they're asking the asset owners to be honest about what things actually cost. They can then be honest with the state legislatures. There is an opportunity with WIFIA to provide support programs matched up next to WIFIA to give flexibility in deals with those trying to fix the problem on their own.

Ms. Throwe – said she thinks there is an opportunity here. For the past day and a half, they have focused on regionalization opportunities. Consider that as you move forward with a discretionary grant program, to push that regionalization approach. There is a need for technical assistance in order to provide the opportunity for a grant program. If you ask them to take stock of their assets, they will need better and stronger technical assistance options.

Mr. Herrgott – asked how many underwriters there were at WIFIA.

Mr. Sawyers – responded that there are currently three and they are in the process for hiring additional underwriters.

Mr. Herrgott – added that regionalization needs technical assistance and motivation. From a philosophical approach, they are seeing an influx of interest in infrastructure development from states. They will start in some states, such as Illinois and Ohio, with a lab taking a strong first step. It will come from the states and they'll come forward. It is on their radar.

Carl Thompson – asked Mr. Herrgott what they think about this relative to small onsite wastewater treatment systems. Twenty-five percent of the systems in the U.S. fall under this category and, at some point, a legacy system needs to be modernized. Doing it one by one and focusing on how populations move up and down, that makes sense.

Mr. Herrgott – responded that by taking some bigger projects off the list, it allows the SRFs to be more used for those smaller projects. They can help free up capital in existing programs. For example, Los Angeles Water is unable to assess a user fee for modernization and maintenance – they want to make it easier for additional fees to be attached to rate structure but not get into the weeds at their level.

Mr. Parrott – expressed his interest in how the incentive carrot would reach the ground and what was being done to inform and influence on-the-ground people and governors.

Mr. Herrgott – responded that, at the end of the day, no elected official wants to ask constituents to pay more. Water is more sensitive than most, but there are ways to figure out policies to address capital needs and affordability. Now that the package is out, they're scouting it out. At the end of the day, no one can tell how they will address a $25M backlog and the 5-10 immediate risks/threats to human health. That is a conversation that needs to be had because people just don't have the money. They're trying to be rational in fixing the problem while educating people about the trouble the country is in and what needs to be done. They have this speech at the Conference of Mayors and others but they need money behind the speech.

James McGoff – was encouraged at the suggestion that customer service would be a component. Indiana's experience is important for the metrics as to how customer service is being delivered. When they transitioned to the SRF program, that helped their programs grow and deliver to vulnerable communities.

Mr. Herrgott had to leave the meeting early due to other commitments.

Mr. Sawyers – asked the board members if there was anything else they wanted to discuss related to the presentation.

Tracy Mehan – asked for Mr. Sawyers' take on what the administration was proposing. He clarified that he was having a hard time putting it in plain English, but it seemed to hinge on whether the states wanted to play the game. He also asked for clarification about why WIFIA was being used for the Superfund program.

Mr. Sawyers – said he was hoping to hear more in-depth information from Mr. Herrgott, but that one point he made that is a big part is around the discretionary grant program incentivizing new ideas and activities. Also, the willingness to operate in a full cost environment, the willingness to incentivize asset management, and other things that Mr. Sawyers touched upon like technology are all key points. Based on the conversations he has had with Mr. Herrgott and Mr. Patella, there is a fair amount of confidence that their plan will have traction on the ground and they have been testing it.

Mr. Mehan – asked if the central thrust was the incentivizing programs that the states will have to play into to make it work.

Mr. Sawyers – responded that he was not sure that it was the central piece but that it is one component.

Mr. Gebhardt – said that it struck him that there are three or four program elements in the infrastructure plan. The major one is TIP. The basic premise is that they are running it as a reverse auction. The goal is to see how few federal dollars are needed to match non-federal revenue to pay for a given project. When they talk about bringing non-federal money to the table, that is a proxy and they're looking at lifecycle; of course, the projects that the federal government can agree to put money against will be the projects bringing the most non-federal dollars in and showing enough revenue to deal with the capital expenditure component and the operational expenditure component. At a high level, that is how he understood it. For the rural infrastructure program, he thinks that is the state federal capitalism program. There will be criteria developed by the states that the federal government will weigh in on that deal with state priorities.

Mr. Arndt – added that he looks at it as a toolkit. Most systems know what those tools are and how to mix and match to develop workable finance programs. When you look at existing financing tools, those are all low single digit costs of capital items. The conversations they've had with folks in the P3 arena, they're not suggesting that it is the fantasy, but the feedback they've gotten is that the cost of capital is high single or double-digit. To the extent you take a 20% or 50% grant and reduce your overall capital costs by that grant component, you are offsetting at 10% P3 cost of capital, you have only reduced capital 8% but that is well beyond what systems can obtain with other tools. There should be ways to promote that and P3s. His sense is that the approach to drive down capital cost through grants will not be very effective based on water system tools already available to work with. He said that he would like to believe otherwise but it seems this needs to be examined closely and possibly rethought and restricted to reflect realities of the water space.

Mr. Sawyers – said the details about what the configuration will look like have not been finalized yet. He added that they may be able to engage the board in that discussion. EPA will think about it a lot and they're not at the landing spot yet. He added that, with how Mr. Arndt explained it, there is an element that is appropriate and it could still change and they are still working on details.

Richard Weiss – said that one other aspect is looking at private activity bonds and P3s. His observation is that it would be a significant expansion. Given the debate last year on tax reform about private activity funds, it would be interesting to see if this can proceed. He is interested to seeing how the debate progresses in implementing some of this.

Mr. Chapman – added that he had read the proposal and would agree with that representation. There is a scorecard component and if they can demonstrate that after the federal bucket is gone, they still have federal capacity to cover operational expenditure and capital expenditure, you will score more favorably. That introduces lifecycle costing, and in that is a P3 message. Anyone expecting the second coming of the Works Progress Administration is going to be disappointed. The federal share will not be increasing. There are nine states with negative outlooks largely because of revenue vs. expenditure. The question is whether they will be able to come up with state match. Local communities are probably similarly situated, to figure out a way to get it done if it is high value critical. As far as cost of borrowing, it will be different. That is part of the plan's take-away message. It isn't just about the funding, it is about changing the message. What we have been doing for decades, it will take a long time to get out of it and address it. His take-away is that state and local governments need to think differently – not just about the dollars and brick and mortar. This isn't business as usual.

Mr. Sawyers – responded that there is a lot in there about transformation and new thinking. He said that his big take-away is to find a new way of doing business and to incentivize it. There are a lot of questions about capital but that is the overarching message.

Mr. Anderson – added that his take-away was that these issues are not new, it is just another possible solution for them. He asked what EFAB's role would be in this and how they could advance the discussion. It is a complex issue, having 50 years of different programs that bring us to where we are today. The idea of full cost pricing is a common thread as well as sustainability defined by technology, environmental, or economic means. If it isn't economically sustainable, it isn't sustainable. Government is the lowest cost longest-term form of investment. Where does that fit? There are also circumstances, such as regionalization, to consider. Demographics change and some systems won't have sustainable paths. There are programs with phenomenal leverage, and how do we take those and carry those lessons learned to other programs? Also, what do we expect out of the people who participate? There is nothing wrong with ensuring people are effectively using funding.

Mr. Sawyers – responded that this could be a much longer conversation. Something to think about is the board's role going forward. We invited Mr. Herrgott to talk about the infrastructure package to help frame the charge going forward. Having implementable recommendations is important and over time there will be focus on what the board can support.

Mr. Walker – commented that the bond market is not saturated. In Texas, they have been planning for water supply for 50 years and until 4 years ago, it was nipping at the edges. Now they have done $7B in projects since the drought. They are at the edge with resiliency and green infrastructure and need to drive the key problem. They have people in Texas with arsenic issues and they think it is a regulatory arsenic problem in the system. They need to drive demand from changing these systems.

Mr. Sawyers – said that, in their shop, they are spending time on marketing because there is money out there. The idea of how to incentivize and better focus on how to get projects to access the money is key.

Mr. Meister – suggested to Mr. Walker and Ms. Throwe that the direction outlined by the administration about infrastructure recognizes that the way we funded and financed infrastructure in the 50 years since World War II has broken down. He applauded them for pointing in a new direction and said that the two of them are a real asset, with the experience and expertise between their successful stewardship of the SRFs and WIFIA's big promise of success. It is the difference between a feasibility study and retrospective review. There is an asset here to allow them and their colleagues to play a larger role and have a voice in discussion with the White House. He heard the administration talk at a briefing last year and they are square in his priorities in a good way. Thinking of these systems as assets rather than liabilities can help. That is square within the context of the developing narrative and conversation.

Mr. Sawyers – agreed and said that WIFIA is huge and will close the first loan in the next couple of months.

Mr. Zimmer – said he wanted to keep the supply/demand topic alive. There is an opportunity with this focus on infrastructure because everyone is talking about it. They go to state conferences and cannot spend enough time marketing but they are still behind the 8-ball on getting the projects into the pipeline. Mr. Herrgott pushed that they are not talking about the full cost or full cost accounting. They all know that they aren't paying what it costs, but their neighbors don't know. They are woefully underfunding water infrastructure nationwide. If they do communicate that full cost message, it would be easier for the mayor to increase rates and communicate that.

Mr. Sawyers – responded that he made a great suggestion. It is an authentic message but few take it seriously. To a sector is an issue and they need to address it, but they're not sure how well that message resonates right now. They should communicate it and it is a struggle for a lot of them to communicate that appropriately.

Lisa Daniel – asked Mr. Sawyers a question. Mr. Herrgott made the statement that WIFIA is successful and Mr. Sawyers said there was a promise of success. From her perspective there have been four applications and they have not closed on any yet, although they are going to close on one soon. Conversely, there is an SRF application handed over with an environmental review and the applicant is still waiting on approval but now the rates have gone up. She said that she just doesn't feel the momentum everyone else appears to feel and she wanted some comfort that this is going to save the day.

Mr. Sawyers – responded that she had an interesting take on it. The idea of the interest rate going up is the first he heard of that. WIFIA is more than a promise and is based on conversations and negotiations. The first loan – King County, WA – is scheduled to close on March 23, for about $120M. They are aiming to close a few more in the following quarter. They have done a lot to streamline the NEPA process and are working hard to streamline the requirements but there is no getting around all those requirements. Based on analysis and categorical exclusion, they think they have created a path forward. He added that her questions are legitimate but as someone who has oversight, if he thought there were concerns, he would be worried. Much of Mr. Herrgott's excitement is based on the information the WIFIA program has been providing him. Based on where they are in the office with negotiations they have an incredible program and envision nothing but success. The SRFs have a very long history and WIFIA will be going forward as well. With any new program, it takes time to move ahead.

Mr. Kaplan – pointed out that the King County WIFIA project had been discussed several times. He was impressed with Mr. Herrgott's commitment to address a major problem but was trying to relate emphasis on full costing and life cycle analysis to our CSO water treatment facility project – the Georgetown project – which is closing soon for WIFIA. They evaluated four alternatives in the process. The operating cost is $800,000 out of $11M. There will be portions of the project replaced over time but the idea is to present a capital financial plan governing 20-30 years in the future. They have uncertainty on that. It is one thing to do it for the project, but it is one project for an entire system. He added that he was trying to process what Mr. Herrgott said and it is not resonating what would be done differently for their project or practices. Another aspect is desire for more capital investment from the utility industry. In King County, they looked at their capital plan and the major issue is manpower. Their portfolio has 100 different capital projects and that requires manpower. If they want to do more, how do they? Is it an increase in personnel in the capital department? It is outsourcing? How do you begin the outsourcing process? Those are the fundamental issues they're dealing with and he wondered how the program could help with that.

Mr. Rothstein – said that from the perspective of domestic and democratic communities, he worries about recategorization with this program that basically says: communities that can come to the table with significant resources and those that can provide the adequate funding can access the federal funding. What about the communities that are left behind? This seems set to exacerbate the income inequality issues. The federal government's role needs to recognize that there are communities out there, like Detroit, with 40% under the national poverty line that will not be able to provide matching assurance needed to qualify. He added that he feels as though they have the potential to leave people behind.

EFAB Report Out: Financing System Regionalization

Eric Rothstein
Linda Sullivan

Mr. Rothstein began the report out on financing system regionalization. He co-chairs the working group with Linda Sullivan. They held a brief initial call to get their arms around the topic and then met earlier in sessions mostly to think about how to frame the problem. He anticipates that they will be working towards a report that, first, looks at defining the problem. They see their situation relative to the international stage and fragmentation. The conversations they have had clearly recognized that regionalization and consolidation are terms being thrown at a number of different problems. They will look at urban and suburban regionalization, which is fundamentally different from regionalization of very small rural systems. There are also problems in defining non-compliance and they recognize that there is a fundamental issue in overpopulation of utilities and structure in this country. They had a good discussion about why things are the way they are and people have raised the notion that it is part of being American. Sometimes communities are defined by having their own water and there is a concern about losing community identify in losing your own water system. One question is how to honor that sense of community while addressing fundamental capacity and sustainability issues. They will also talk about the reasons for fragmentation to help recognize the situation we're currently in.

There is a challenge in going against the status quo and there are a lot of people who benefit from that fragmented structure. When there are 15 issuers issuing debt as opposed to one, you get 15 fees. Reframing that is challenging and there are other factors, from the mayor's cousin being on the water utility board to investment banking to different providers to think about. Based on this incentive structure – control and economic incentive – it is not a surprise that we're in this situation. They are going to think about unravelling some of those and providing adequate incentives that overwhelm existing incentives but it is a huge challenge. No one had immediately apparent solutions but there are some important options out there. They talked financial incentives but also fundamentals of trust and distrust. For example, if it is my cousin running the water utility, I trust them, but a private provider with offices 150 miles away, there may be trust issues because I don't know them.

Mr. Rothstein noted interesting discussions they had about different governance structures. There is a whole spectrum of partnership arrangements and he anticipated that the report would look at deciphering and categorizing problems, existing incentive structures, a variety of governance structures, advantages and disadvantages, changes that need to be made, and barriers to making change. They will use some case studies and templates to show how different communities have tried to surmount those issues. There is a host of interesting case study material around how communities have been successful in accomplishing various forms of regionalization. He said he would anticipate they will use the case studies and some templates – templates for creating an MOU, cooperative purchasing agreements, tools, guidance – and hopefully have recommendations for legal and financial incentives to help define some new models.

Some people have asked to join the working group and they welcome anyone new who wants to contribute. The work group's next steps are to put together an annotated outline and hopefully start flushing out what they need for data collection and information about different templates and options. Then they will develop writing assignments. They are shooting for a draft in 9 months and will hold monthly conference calls.

Discussion/Questions

Mr. Sawyers – said he thought the deliverable date was the summer, not a full year.

Ms. Crichlow – clarified that they should have something in draft to share by the August meeting.

Mr. Kaplan – said he was talking to a colleague and was surprised to find that there is no legislation to form joint agencies. He suggested that highlighting that in the report would be helpful.

Mr. Hughes – said that a lot of people are looking at regionalization right now. The WRF and AWWA just launched research on this topic. The Aspen Institute and Duke University are also planning to hold a discussion on this topic, and the Water Alliance is undertaking a related initiative. There should be a lot of information and ideas around so he urged the working group to focus on very specific things EPA could do so the recommendations help EPA with their next steps. For example, the formula EPA follows to provide grants is tied directly to the number of systems because they get more money to regulate in the state if there are more regulated systems.

Mr. Sawyers – reported that he is currently working on the efforts through the Alliance and WRF.

Ms. Beecher – said they see synergies among these projects in Michigan. She provided a couple of quick notes – there were 66,000 water systems when they started consolidation efforts, now there are fewer than 50,000 and she has been working with SDWIS to break this down by the numbers. Close to 25% of the population is served through a wholesale provider. EPA counts systems but they count utilities, and utilities can operate multiple systems so it is important to get an accurate profile. Part of the reason system numbers came down was the capacity development tools from EPA.

Mr. Parrott – added onto Mr. Beecher's comments, saying that historically water supply has driven regionalization. There has been more progress on water than on wastewater in a lot of states and they are looking specifically at failing systems. Kentucky recently introduced legislation to eliminate barriers to regionalization in local agreements and to make it easier for utilities to work within the state to provide support for or purchase failing systems. That is something to think about and watch as well.

Ms. Downs – added that she does not want to lose sight of regionalization vs. contracting options. Contracting options may be options to get economies of scale and should be seen differently from consolidation or regionalization.

Update on The Water Infrastructure and Resiliency Finance Center's (WIRFC) Activities

Jim Gebhardt
Sonia Brubaker
Kristyn Abhold

Mr. Gebhardt kicked-off the Update on the Water Infrastructure and Resiliency Finance Center by sharing that the Water Finance Center (WFC) had been around since January 2015. Sonia Brubaker was the first WFC employee. He wanted to underscore the concept of leveraging not as much in the context of dollars but in expertise. The WFC sits at the core of the conversation about expertise in the water sector. At the Agency, the WFC builds relationships within the federal family and, beyond that, they have a working relationship with the EFCs and work critically with EFAB. They understand it is not all about water but water is a core element of the EFAB charge on behalf of the Agency. They also work with the wider stakeholder community in the water sector including associations, foundations, other NGOs, and states. They have been particularly energized post-Flint about the critical value of water and the role they can play to deliver resources for technical assistance and how to partner their available capital in the seed capital money to energize new solutions. They are also still working on providing finance forums in the regions. The next one will be in April in Wyoming and will have a focus on small systems. The final forum will take place in early June in Region 5 in Ohio. He also wanted to draw attention to the Water Finance Clearinghouse and highlighted that Sonia's remarks would update the board on where they are with that product.

Ms. Brubaker – is the program manager for the WFC. She thanked Jim for his overview of the program and said that in addition to overseeing the board and grants to EFCs that they have also been developing products including the WaterCARE technical assistance program, customer assistance programs, and the drought report. Her remarks focused on the water infrastructure financial leadership efforts from the past year. They started with a national dialogue about affordability in summer 2016; a lot of topics came out of that discussion and they were thinking about where to go from there. There was a regionalization effort that came out of that but it was to tease out communities in need and what they need. They worked with the Environmental Council of States (ECOS) to host a smaller meeting of experts picked from national water associations. They wanted it to be a small group that met once to talk about issues and from the 1.5 days of discussion they had a lot to unpack. After that, it really came down to local decision makers and board member training. They know there is a lot of information that has been published over the past two decades and they wanted to highlight that work at a level where a local leader could look at the information and be able to navigate the process and make decisions. The document helps determine what is needed, how to fund projects, and how to protect investments. They developed a 60-page document where the first 30 pages were 1-page high level topic reviews and the second 30 pages were case study examples. There were three key steps outlined in the document – preparing the community, how to bring capital in, and maintaining strong financial leadership practices. The document is intended for local decision makers in any community at any level in the process. It can work for communities starting the process or those who are already in the process, but the document does emphasize communities in need.

Ms. Brubaker continued, stating that the first question is: what is a community in need? There are definitions already out there like "disadvantaged communities" from places like the Safe Drinking Water Act but people also don't always want to fit into that box. A community could be resource constrained, have high unemployment, a declining rate base, low bond credit rating – really anyone who self-identifies as a community in need could be considered one. There are key questions in the document to help leaders walk through the process which is broken into three categories – asset management, financial planning, and stakeholder engagement.

Step two is to determine how to bring capital into the community. It is important to define funding vs. financing. The document made a point to talk about the two separately and how to pair them together to get your needed outcomes. The document also touches briefly on creative ways to generate revenue, engaging in system partnerships, governance models and regionalization, and how to find funding and financing.

The third step is maintaining the financial leadership practices. That could be how to contribute to community's economic development. The document includes information on affordability and assistance programs and regularly checking up on the system's health. Communicating the importance or value of water to the community and being able to take out a loan and repay it is also included. The customers need to know and understand what they have to pay and why for all of the services delivered.

There are over 20 community examples in the document. There are various topic areas so different communities can relate to the examples. Most of the examples are co-funded. In one co-funded example from Maryland, they estimated that they could save annually by building a wind turbine. A second example is for Detroit green infrastructure. This was also a co-funded example but not as traditional. They were given a Great Lakes EPA grant and two foundations provided additional grants to do a stormwater project. Another example was to open a winery to bring in new jobs and build tourism. They used local grapes and in addition to funding the facility it spurred a housing development to be built for workers as well as tourists. EPA did not fund the winery but it was part of a larger coordinated effort. The next example is traditional revenue generation from leasing space on water towers to generate funding to avoid a high rate increase. There are a wide range of examples in the toolbox that communities can use and build from. The Water Finance Center wanted to show communities these different examples and what they could do to finance their needs.

Ms. Brubaker turned next to the Water Finance Clearinghouse. Kristyn Abhold gave a presentation to the board in August following the launch. The clearinghouse has a lot of information in it and it has gotten a lot of attention and visits since the launch in July 2017. They have had about 35,000 visits since the launch. Something useful with the clearinghouse is the user's ability to save information and for states and other funders to update their own information. There are general users, contributors, and people providing information to the clearinghouse. They will continue to provide updates to the board and are now looking forward to updating the clearinghouse to capture some of the discussions and data discussed at the EFAB meeting. Right now, their big project is developing the water finance learning modules. They will have learning modules for the states and local leaders to take deep dives into P3s, the SRFs, and other topical areas like financing water loss, decentralized wastewater systems, resiliency financing, and more. Ms. Brubaker told the board that the draft content for the learning modules is currently being put into an interactive format using Adobe Captivate and if they are interested in helping develop or review draft content to let her know.

Mr. Sawyers – thanked Mr. Gebhardt and Ms. Brubaker for the update and made a couple of announcements. First, that Ed Chu, the Deputy Administrator for Region 5, would be playing an integral role in EFAB going forward and that Bill Cobb would be moving on from the board and they wanted to recognize him before the end of the day.

The board broke for lunch and the meeting reconvened at 1:37 pm.

EFAB Report Out: Chesapeake Bay Performance Metrics

Suzanne Kim
Craig Holland

Ms. Kim provided the report out for the Chesapeake Bay Performance Metrics working group as Craig Holland was sick. The board got the charge at the last meeting. The charge is to come up with finance metrics to use in the Chesapeake Bay and then to expand to other watersheds. They had a call a couple of weeks ago. Mr. Holland and Ms. Kim come from the private sector and the only real metric is internal rate of return (IRR). They reframed the charge so the problem is more than just looking at finance metrics and what defines success for private capital. The larger problem is insufficient public financing and grant availability to implement and complete water quality projects at a scale necessary to meet water quality goals. The problem is more how to access private capital markets in general. The idea is to understand how to attract private capital while meeting other stakeholder needs of states and local officials. After the working group discussion, they expanded the charge based on an understanding that it is not just regulated markets but the unregulated markets as well.

They are trying to reframe the charge in two ways. The first is how to bring private capital into regulated markets. Within that, it is providing investment cash flow and understanding how that cash flow works – where is the funding coming from? Is the capital source stable? What is the risk to IRR? They want to look at the exit value and what the potential cost is for projects like opportunity for economies of scale and the revenue supply and demand benefits. For investment cashflow, it is also mitigating risk to cash flow. Defining the product, what is being specified, and the influence of TMDLs is important. It is also about how well it is being tracked, how predictable purchasing forecasts are, indirect and direct costs for the project, and ongoing costs. It is important, through all of that, to ensure the goals of the municipality and state are met. That includes looking at public lenders and how they want to maximize their dollars. The second part is an analysis of supply and demand to see recommendations on regionalizing and standardizing. They also need to determine how the unregulated parts factor in. How can they incentivize agricultural polluters to clean up their pollution? Maybe there are subsidies that are already out there. They need to explore that side of it more. It is also critical for municipalities to meet TMDL obligations.

They plan to come up with an updated charge in a week or two with a document draft or outline by August. The work group still needs to run the revised charge by those who provided the original charge.

Mr. Sawyers – agreed that the charge needed to be redefined and wanted to better understand the issue.

EFAB Report Out: Public-Private Partnerships Predevelopment Protocols for Water Projects

Lisa Daniel
Richard Weiss

Ms. Daniel – thanked the working group for their input on the new P3 charge for predevelopment protocols for water projects. The P3 working group has been assembled for the past couple of years and has been an advisory committee instead of a deliverable-focused group. This is their third charge and it allows for some output. In a nutshell, it is to help the state predevelopment processes that have been used and can be considered by decision makers. For example, when the mayor comes back from the Conference of Mayors and he wants to conduct a P3 project, what are the questions that follow? This is this piece that helps them answer those initial questions. They want to create a matrix that is not advocating for anything but providing a thought process as to whether it is optimal for that situation. First, it will consider the objectives of the people considering a P3. Second, it is important to think about the feasibility, such as the legal authority or procurement processes. Is there a political will, public will, and does it affect credit? What resources are needed for executing and monitoring the project? Are the right external parties involved? What are the accountability measures? There is a need in any contract for key performance indicators (KPIs) to make sure all parties are held responsible for what they have agreed to on the front end. The last piece is cost. That is to educate decision makers about what cost means in relation to a P3 project. We talk about building finance and maintenance, long term planning and costs – those are not independent to P3s but there is an opportunity to emphasize that when thinking about utility planning.

She added that there is also an opportunity to talk more about the innovative models that have to do with environmental impact bonds or outcome-based performance and performance contracts that can shift risks onto third parties and pay them if they do what they say they'll do. That was the basis of the charge, and next they will work on an outline. The outline will be drafted for this group by the August meeting.

<u>Discussion/Questions</u>

Mr. Sawyers – asked for clarification about the deliverable and whether they would provide a draft outline, a well-developed outline, or a draft report before the August meeting.

Ms. Daniels – clarified that they would provide a well-developed outline.

Mr. Anderson – added something else to consider. P3s are typically used in contractual circumstances. They need to understand where they're going and how to make it happen. The work group is also seeking ways to align those interests because, over time, they aren't allocating risk but rather putting bumpers up to correct direction as necessary.

Mr. Rothstein – shared that he has been involved in P3s for a while and finds that this group has a unique perspective and level of expertise and credibility to broach the subject. The National Council for Public-Private Partnerships (NCPPP) folks have an agenda to move forward with other players in the game but there is an important opportunity to take advantage of this group's expertise and understanding to tell a credible story about the role of P3s.

Ms. Downs – agreed that the board is in a unique position but having a compendium would be invaluable. There are many different materials that people have published, but real examples would be valuable for people.

Mr. Weiss – added that the matrix deliverable they develop will be comprehensive.

Mr. Sawyers – concluded that, in the context of conversations from the morning sessions, that as they develop the report together, they should think about things EPA and the federal family can put in place to respond to P3 issues. It is critically important that the board doesn't necessarily take a single position but touches on the several issues the Agency and others should be considering. They need something more than a skeleton approach and would appreciate a draft report by August.

EFAB Report Out: Backhaul Alaska Revenue Model Assessment

Hope Cupit
Joanne Throwe
Heather Himmelberger

Hope Cupit started the report out for the Backhaul Alaska Revenue Model Assessment charge. The group met to discuss the project during the work group sessions on Day One. Ms. Cupit provided some background and history about the project – EPA funded development of a program for stakeholders throughout Alaska to develop self-sustaining programs in the state. The statewide backhaul plan consolidated input from the last three to four years representing tribes, recyclers, and non-profits. Untreated waste burning is legal in Alaska and, due to the nature of transportation and geography, engineering logistics to maintain a landfill to national standards is not feasible. Leeching of hazards or burning toxics are real issues in Alaska and it is a harsh reality of living in these conditions. They established the SWAT program – Solid Waste Alaska Transport – which aims to find a way to make a sustainable backhaul program. They also started developing an approach to get the private sector to pay to remove waste from Alaska. The work group had a call with Gabriela Carvalho from EPA Region 10 to gather more information about how much backhaul costs and who could pay for the program. The Indian Environmental General Assistance Program (IEGAP), enacted in 1992, is funding the effort right now. IEGAP helps tribal governments manage local environmental programs through EPA. EPA was the first agency to help Indian groups with waste systems. By 2000 there was pressure from tribal leaders to include a wider array of activities under their support, so in 2002 Congress said IEGAP could be used for backhaul and waste programs. In 2013, IEGAP guidance was released for how the funding could be used. That included direction that it could no longer be used for the operations and maintenance of solid waste. EPA urged tribes to develop self-sustaining programs with other funds by 2017. They currently have a 3-year pilot program to test but they only have funding for one year. In 2015, 170 tribes received grants in amounts from $75,000 to $125,000 and totaling $225M.

The charge is to develop revenue options for waste service programs for rural Alaska. EPA Region 10 requested EFAB's support in reviewing revenue programs for backhaul to reduce leaching and open-air burning risks to public health. The charge includes developing a 10-year business plan and reviewing revenue options. In the work group's first meeting, they discussed trucks taking materials with them when they leave. Backhaul refers to the more remote locations so the waste is usually transported by airplanes or barges and can sit for over a year before being shipped. It is also important to recognize that there is no gross regional coordination at this stage. They want to have a control tower to coordinate transportation, a network of coordinators between villages and state agencies, uniform training to perform the work, commodity brokering to recycle items to offset the costs, and volunteer support from the impacted villages to help reduce total costs.

Ms. Throwe – restated the pitch for this work group: this is a very interesting and unique project. They usually support a lot of water-related topics but this is unique in that it looks at a logistics issue, it is a specific need, and they are looking to the board to provide several options to consider. When they consider what is happening in Alaska, the team assigned to this work group know very little about backhaul but they are pulling together ideas. Ms. Throwe asked the board members to consider joining their team. The team is very small and there are a lot of items to unpack, like that the unemployment rate in Alaska is on average 35%. It is difficult to think about fees per household for people in rural villages that are subsistence hunters and fishermen. Some areas have a waste collection fee but the fees are very low even when they do exist. Region 10 is looking to EFAB to consider what type of fees to recommend for households by looking at income, population, and other metrics. They have found it interesting to look at case studies because they have found that some of the coordinators in the hub areas that do exist are relying on cousins, other family members, and volunteers to keep costs low. From a sustainability perspective, how do you approach that element? What they want is a 10-year business plan for this. The team is not sure they can deliver that but they're going to try. They are also considering legacy waste in Alaska and what kind of services are or should be paid by the government. What is the federal government's role for legacy waste and projects on the ground that have left landfill waste? They also want to talk about the recycling opportunities to recycle aluminum and other materials of value. The board recently had the recycling charge and they could put together some ideas from that and other past charges. Another area is the producer's responsibility. If you have products coming in cradle to grave, what is the producer's responsibility for this waste? Things like lightbulbs, used batteries, and other products they could consider and determine responsibility for.

The team asked the client, Gabriela from EPA Region 10, about the state's involvement and she said the state isn't very involved. They provide some technical assistance but no funding. She wasn't sure, based on that relationship, how far they would be able to get in engaging the state. They will lose the IEGAP money that has been paying for the backhaul thus far and they need a sustainable program by 2021. There is an opportunity for EFAB to come up with revenue ideas, options for success, and input on what won't work. They have some great villages working together on the pilot and the board could use that as a resource. The session at the beginning of this board meeting was their first group meeting so they are open to new group members and ideas. The team expects to have a final report by the August meeting.

Discussion/Questions

Mr. Sawyers – said it is a difficult issue but is very important. They have a small Alaska program in his shop and it attempts to address many similar difficult issues in rural Alaskan communities.

Ms. Downs – asked for clarification about whether the waste is generated by the villages in Alaska or outside entities. She suggested they might be able to have input from an environmental justice perspective as well.

Ms. Throwe – responded that the waste is generated by the villages but there is also legacy waste that exists and they aren't sure where all of that came from.

Ms. Cupit – added that they have thought about the legal issue with the waste but they're not sure if it is their call.

Ms. Downs – said there might be language they can use to help set the tone for how some recommendations look in the report.

Ms. Throwe – added that she does feel they have a responsibility to bring up questions like environmental justice.

Responses to Decentralized, Lead Risk and Recycling Reports

Tom Liu

Mr. Liu noted that the board had been very busy since their last meeting in August 2017. Three reports had been passed onto the administration, on lead risk, recycling, and decentralized wastewater. They have already heard back about the lead report and are looking forward to hearing on the remaining two reports soon. They received a letter from Administrator Pruitt on the lead report. Mr. Pruitt appreciated the board's effort and acknowledged their unique perspective, which is critical to public health challenges in this area.

Mr. Liu said the report was very comprehensive and that it would now go onto additional offices for comment. He thanked the group for getting three reports out in a short timeframe.

Mr. Sawyers – added that the Agency has already had some conversations about ways to utilize portions of the report and that he appreciated how comprehensive the final product was.

Public Comment

The public comment period was opened at 2:20 pm.

Heather Cannon – an Alaskan native and rural tribal member who works for the Rural Community Assistance Corporation (RCAC) and the EFC for Region 10 made a comment during the public comment period. She indicated that her comment was not associated with her background or positions with RCAC, the EFC, or her tribe. She said that for the state of Alaska backhaul is a major issue, the state does not support tribal people or sovereignty and that is where the issue starts with the backhaul program.

Next Steps & Adjourn

Mr. Sawyers – thanked everyone for coming to the meeting. He added that he hopes everyone was actively participating in the work groups and asked them to consider being on more than one work group. The board is critical and the contributions they provide will support what the Agency thinks about going forward. He added that other federal agencies are also interested in the board's perspective and insights and that USDA may ask the board to support charges in the future. He thanked the members for their continued support and said he hoped that by August they would have five completed, or close to completed, reports. It is likely they will have new charges presented during the August meeting and Dave Ross and Mr. Sawyers had already had a conservation about having the board think through challenges. He concluded that the August meeting would be critical for setting up a timeline for the next couple of years.

Mr. Sawyers thanked Tom Liu again for his leadership on the board and told the returning board members that he looked forward to seeing them in August. Preliminary information about the August meeting would be sent out in the next couple of weeks.

The meeting adjourned at 2:28 pm.