Moving Toward Effectiveness Webinar Series

Webinar 1: Community Sustainability

October 30, 2014

Speakers:

- **Jim Horne**, U.S. EPA, Office of Wastewater Management
- **Andrew Kricun**, P.E., BCEE, Executive Director/Chief Engineer Camden County Municipal Utilities Authority
- **Sue Hann**, City of Palm Bay, Florida

Transcript:

Slide: Moving Toward Sustainability: Webinar Series

Andrew Sawyers:
[Audio starts a minute into the presentation.] It's a space that they've been working in and we really appreciate your attendance. On behalf of my office, the Office of Wastewater Management, we really want to, again, thank you for participating in today's webinar. And Jim has been sort of the leader in putting most of this work together. So Jim, a big thank you. We appreciate the work that you have done. Most importantly, however, thanking the two key speakers today, Andy and Sue. They will share some of their experiences about all the great work taking place in the organization. I think from EPA's point of view, the challenge of sustaining our precious water and infrastructure is really critical to us and so to the extent we can bring expertise and individuals who have done a lot to address some of these concerns and share some of the benefits, share some of the information that they have actually provided to communities to help them to address some of the sustainability issues, I think it is really good for us to provide a forum to share that information. Helping utilities and communities like yours with some of the challenges that we will talk about today is really one of the things that I've been focusing on since joining this office a year and a half ago. I'm particularly concerned about the sustenance of our small systems resources and I'm concerned about the resources for our small systems and I have really invested a lot of time and attention and, frankly, resources to making sure that our small systems or small utilities in our small communities are benefiting from some of the transactions, from some of the information that we are aware of and, frankly, resources that we are aware of to help you address some of the critical concerns that you are faced.

So today's webinar, we'll talk a little bit about an important document that Jim and his folks worked on. It was issued in our office earlier this year. It's called the Sustainable and Effective Water Utility Practices Roadmap and it's really designed to help utilities with a series of specific practices to help them improve their performance and meet the needs within the communities. When this effort started I sort of made it pretty clear to Jim and others that we really want to make sure that small and large utilities could use it and I think we have achieved that. I was concerned initially that most of the conversation that we were having with communities were included in the documents we were preparing were primarily to help large communities. And frankly, I work with the state of Maryland for over a decade and more often than not, it's sort of the difficult issues that communities were facing often came with small communities. A lot of the larger communities had capacity to address some of those issues so I think it was really important for us to make

sure as we develop the documents, as we develop the infrastructure and resources available to help communities that we actually emphasize or place special emphasis, if you will, on small communities. And I think this document will help us to get to that goal. But again, as you know, within the utilities and communities, this is sort of where some of the rubber meets the road so my hope is that the webinar will really help to give you some real life experiences that communities have embraced. We want to make it work. I mean the thing that I say to Jim often is listen, whatever we do we want to make sure it can be operationalized at the local level. We have to make sure that we put the infrastructure in place that when we provide this information, it's actually applicable, it is implementable, something that communities can actually associate with. So we really -- I am actually interested in sort of not only providing you this but getting feedback to make sure that it can help you to address some of the difficult issues that you are wrestling with in some of the communities that you serve. So we plan to do several more webinars in the coming months and I really hope you find the webinars useful and hopefully this roadmap will help you to address some of the issues within your community and frankly, can help the communities to be more sustainable. But I want to thank you. I really appreciate the work that you've done in your communities but again, to the extent that our office at EPA can help you to get in your communities to address some of the difficult water and wastewater issues, please let us know and we'll figure out ways, if possible, to provide some types of support, especially technical assistance.

So Jim, I'm sort of committing you to helping more. I'm going to pass us back over to you, but again, I just want to express my appreciation and thank you to the group for at least allowing me to say a few words to you. But again, this is where, you know, this is very important to us and we will continue to focus our attention here. So Jim, thanks to you and I'm passing it back to you.

Jim Horne:
Very good. Thanks so much, Andrew. We appreciate those remarks. That was a great starting point. Kristin is going to put up a couple of logistical slides and then I will give my opening presentation and then we will go on from there. So Kristin, back to you.

Slide: Webinar Logistics

Kristin:
Hi, everyone. I just want to run through a quick couple of quick logistics for today's webinar. I had a few questions come in already. The slides will be made available after today's webinar. We are also recording the webinar so we will be making that available via the web in a couple of days as well. If you have any questions during the webinar there is a small chat box where it says "Enter a question for staff." If you type into that box, at any time of the webinar we will queue up your question for the short question and answer period that will occur after each presentation. If you have any questions about the webinar itself, feel free to type those in there, too, and I will get them answered as quick as I can. If you're listening today via your telephone, just make sure you have used telephone selected in your dashboard. You can also listen to today's webinar via your computer speakers, especially if you have a really good headset, that way the audio will come through clear. Let me know if you have any trouble hearing anyone via the question and answer box, otherwise I think I will go ahead and turn it back to Jim.

Jim Horne:
Okay, thank you, Kristin, and just give me a second here, everyone, while I bring up my slides. So I'm going to do exactly what Kristen told me to do and I'm sure it will work. So one second here.

Slide: From Aspirational to Operational

Okay, I hope everyone can see my slides there. The first slide reads "From Aspirational to Operational." So again, just thanks to echo Andrew's remarks. Thanks again for taking the time out of your busy schedule to join us. We know you have a lot of other things you could be doing and so we hope this is useful and we will go ahead and get started. Again, I'm Jim Horne from the Office of Wastewater Management. What I will do is give you a little more background on the document that you should have received a link to yesterday from Kristin. This is our sustainable and effective practices roadmap document as we call it. That is kind of the basis for the entire project and our speakers will talk about these sustainable practices they are implementing at their particular organizations. But let me start here by, as I said, giving you a little background and then we'll keep rolling here.

Slide: Available Online

The first thing I want to do is make sure you know how to get to the document that I am speaking about. So there is the link on EPA's website. Please download a copy. It is not a hard to read or not a terribly long document but as I will say throughout the course of my remarks, this was developed with significant underlying significant input from water and wastewater utility leaders from around the country, including the two organizations that will be speaking today. So I cannot thank those people enough and you will see their names on the inside cover of the document, I cannot thank them enough for the assistance they provided throughout.

Slide: Context

Let me give you a little bit of context as we see it from EPA's perspective. And I think this really drives the nature of the work we do and certainly this particular document. As I like to say, utility efforts toward what I will call sustainable operations are really all over the map. Some utilities, and I'm not going to pick on small utilities versus large utilities here, I will just say some utilities continue to struggle to consistently remain in compliance and provide even the most basic services. Others are really seeking to optimize kind of what they do now. And sort of the basic tasks of providing water and wastewater services. They're really in this optimization mode whereas I like to say, they are driving out sort of every last ounce of inefficiency in their current operations. Interestingly, a growing number are really moving toward a concept that others in the industry are now calling the utility of the future. They are really trying to transform their operations, certainly to continue to optimize the basic services that they are always responsible for, but really beginning to look at their operations in a very different light in terms of moving toward resource recovery, playing a much more active role in economic development, a lot of things that really have to take place outside of the operation of the utility itself. So I will say a little bit more about that during the course of the afternoon. As I said a minute ago, size as far as we are concerned is not the only determining factor about where utility happens to be in terms of its sustainability. And also, and I will say this several times as well, the effect of utility management framework, which many of you may be familiar with, is really the foundation from which we do our work here and really was the foundation from which we built the document that I'm talking about.

As Andrew said, sustainable practices are really what this is all about. This document takes you through kind of the next step really going from the kind of goals, where you want to get to, if you will, and bring that back in said what are the types of specific practices within your utility you should be looking to implement to help you no matter where you think you are in terms of that sustainability continuum.

Slide: Municipal Water Systems Sustainability Continuum

So I like to use this next slide, the old bell curve here, as a way to kind of keep my eyes focused on the ball and also it drives the kind of work and figure out the appropriate audience for the work we do here. There is nothing magical about this. All of us today could have drawn this up in five minutes, but again, looking over on the left-hand side, if you look at the continuum, there are some systems way over on the left-hand side that are not viable and probably never will be. There is a second group that certainly is moving toward compliance. Compliance is the ultimate goal there. And they are moving in that direction and hopefully they will get there. In the middle you will see fairly large number of systems or utilities where the notion is compliance is good enough. That's what we need to do, we are open to new ideas, but compliance is really where we think we want to be but are open to moving beyond that. The next two sort of quadrants, if you will, are the ones that we find most interesting and the ones that we try to work the most with. This next one I would characterize as utilities that are willing and able to become sustainable, but may need certain things to happen. Certain circumstances, certain incentives, certain support mechanisms, and that's a group I think that's a very large group across the water and wastewater sector and that's where I like to think we do a lot of our work here. Those people that really are open to the notion of moving towards sustainability over the long term and we try to play a positive role here at EPA in helping them move in that direction. And then finally, over on the right-hand side are the people I say or they say may say about themselves we are there. I will say my colleagues in the industry are pretty tough on themselves and they might say that nobody in the industry is really there but there are people, obviously, for this type of sustainability is really part and parcel of their DNA. They are the early adopters, the people that are always out there in the front. And that's a small group of people and very important. They are important for many reasons, not just what they do but what I think they can bring to the table for other people that want to move in that same direction. So again, this is just kind of a simple depiction of sort of the state of the world as we see it.

Slide: Where does this document fit?

So where does the document that we will be talking about, that I'm talking about what, where does this fit in this whole scheme? We like to see it as a document that gives utilities of various sizes, and Andrew certainly mentioned the importance of smaller and medium size utilities and that's very important, but we like to see the document as something that gives folks a practical, usable tool to improve their operations and move toward sustainability. Something they can use now. That was something that drove us from day one. Certainly a point that our Utilities Steering Committee made to us and something that I think hopefully we have achieved. So this is not something that you have to study to death to figure out how to use it. It's something we think utilities of various sizes can pick up and use effectively now. The document includes proven and effective practices that are being used now by utilities. These were not things that were made up by a group of EPA experts. In fact, our Utility Steering Committee played a very hands-on role in developing the practices that you will actually see in the document. We assigned them certain areas and had them take a first shot that we then worked on. But these are really things that they

think are useful and are being used now by utilities. It really helps you make the connection between what I say setting aspirational goals and achieving tangible results. And I think that is an important connection and that is really where I think the bridging aspect of this document comes into play. It is certainly hardwired to the effective utility management framework. The 10 attributes of effectively managed utilities and keys to management success that EPA and major trade associations have adopted and have been promoting since 2008. There is a link to the Effective Utility Management website there. If you haven't gone to that, you should because that really gives you a whole range of resources and gives you the whole history of what we now call the EUM Framework. But it's important to remember that the consistency was very important to us here at EPA and very important to our Utility Steering Committee. Their message to me was clear. We understand that we think the industry understands the Effective Utility Management Framework. Don't create a document that is based on something else, use that solid framework as a way of organizing this document and we've done that.

Slide: Our Foundation: Attributes of Effectively Managed Utilities – The 360° Look

So again, the next slide is just a depiction that we use, kind of as I call it the wheel of fortune here that shows the 10 attributes of effectively managed utility. It was put together, again, by a group of utility leaders some six years ago and it has stood the test of time very well. I'm always pleased when I go to conferences to see how much recognition and understanding and really how much sort of adoption there has been of this basic framework. So again, this is the foundation for what we do here at EPA, certainly the foundation of this document.

Slide: How We Got Here

Let me just spend a couple of minutes on process. I will be quick here but I think it's important to know sort of how we put the document together. This really emerged from a workshop that we hosted back in 2012 with a series of invited utilities and some state representatives. The purpose of the meeting was really sort of to pick their brains and kind of take stock of the current progress on effective versus sustainable utility management. We had done a lot of work with organizations like WEF and AWWA, and NAQUA and others have done a lot of great work so we wanted to hear from utility leaders where do you think we are today and what needs to be done going forward. So we spent about a day and a half with these folks, fairly intense kind of highly facilitated meeting, but we also had a very good brainstorming session for the afternoon and part of the second day. And in the most prominent -- as I like to say, the most prominent and achievable suggestion that emerged from the group was to develop a document like this, something they called a roadmap of selected practices. Not every single practice that utilities were implementing, this is not the phonebook. These are selective and effective practices that people in the industry think are useful to put forward. So again, this last bullet just emphasizes the fact that we formed the steering group of utilities and states to provide input throughout the development of the document, not just input, but they did a lot of work and I can't, as I said earlier, thank them enough. So what you see reflects very much their input and their thinking.

Slide: Who We Worked With

Again, as I said, we did have input, a lot of input and a lot of help from our committee. Input from key EPA staff and managers. Also, once we had what we thought was pretty close to a final draft, we ran it back through the major associations to send out to their members who had not been part of our steering committee and the feedback we got through that mechanism was also very

positive. People seem to be very supportive of the idea and I think that is reflective of the fact that four of the major associations are co-sponsoring these webinars. WEF also offered a suggestion about working together to try to communicate how various efforts, sort of the various roadmaps that you may see out there from various organizations kind of fit together and support each other. That's an idea we are still thinking about, but it is certainly something that is relevant and maybe something worth pursuing.

Slide: How the Document Works

Here is the most important part that I want to say about the document and that is to explain kind of how it works. Hopefully that's been clear. When you get a chance to read it, the first 10 or 12 pages really focus on the background and how the document works but here is what we say about that. Again, it uses the same Effective Utility Management Framework accepted across the sector so you'll see the practices are organized around what we call 10 core management areas. Those are the exact same as a 10 attributes of effectively managed utilities. We also have areas, we have two other practice areas which focus on planning and one that focuses on performance measurements. So those are kind of the book ends of the core management areas that you'll see in this document. But again, tightly, tightly tied back to the EUM Framework.

We also thought it was important to break the practices down in each of the core management areas by three levels. So you will see this level -- you will see these three levels in there. Level 1, we call providing adequate fundamental services. Those are practices that really are probably most useful for utilities in certain areas that really are focusing, for example, on making sure that they get into compliance and stay into compliance and they feel that's where they need to be or as far as they can get for now. The level 2 practices, each area, again, as I said earlier, talk about optimizing your current services and operating within the conventional water and wastewater model. But again, driving out all the inefficiencies and really focusing on optimization and I would say that's what an awful lot of utilities are doing now. Level 3 is a very interesting level. It really talks about those practices that are kind of out there on the edge that we call transforming services for the future. It doesn't negate in any way the importance of providing the fundamental services and optimizing those services that you see in the first two levels, but it also talks about sort of some new ways of doing business. Again, in the examples I like to point to are examples like resource recovery but you also see practices in there that relate to community sustainability, which is what we will be talking about here today. Also things, the practices that we think could help promote or help the economic development in the community which, as many of you know, is something that a lot of utilities really are finding very, very important these days. The levels are not constructed to be bright white lines. We put them in there simply to help utilities actually sort of gauge where they thought they were in terms of their current level and the practices that they are implementing now and then to set priorities to determine where they want to go. Kind of a progression model, if you will, but the progression at a pace that really fits the needs of the utility and the needs of the community.

Slide: Other Things You Should Know

So a few other things you ought to know about the document as you look through it and again, we try to explain these in the introduction, but I will summarize them here. This document is not a document that says here is one roadmap for all utilities to follow. We had a very robust discussion with our steering committee and I think everybody agreed that this is a document that helps you set your own roadmap. It really has you look take a look at the practices in the areas,

the core management areas that you think are most important to you and most important to your community and really set your own pace and as we say, develop your own roadmap. So it's not a cookie cutter here is the one roadmap for everybody. It's your roadmap using these practices that we hope the document will help you develop.

These are not -- this is not a comprehensive set of practices. It's not the Encyclopedia Britannica or the phonebook. We were very clear about that upfront. These are selected practices looked at and endorsed by utility leaders from around the country. We use the term "practices with a purpose." And to help gauge your current performance and progress over time. Again, at a pace that you think suits your needs. The practices can be scaled and implemented regardless of a utility's current capacity or size. We are very clear not to sort of say well, the basic practices are really for the small utilities. Our steering committee said we don't believe that and I don't believe that. I think each utility is different and we found that some small utilities are really way down the road towards sustainability in certain areas, some large utilities in certain areas are not. So it's independent of size here. Again, the levels are just an informal progression model. We certainly encourage utilities that use this to progress over time. But again, the pace of progress should be based on your needs. In other words, your own roadmap. So that's a very important part, a very important aspect of this that we like to mention.

Slide: Relationship to Other Sustainability Priorities

So people always ask me, well, how does this relate to other sustainability priorities that we hear about either at EPA or certainly out in the industry? So climate and resiliency; I'll just give you three examples. The first one, climate and resiliency. We have a very robust section in here on operational resiliency, which is practices drawn heavily from ongoing resiliency work or products by EPA and many other organizations around the industry. So there's a very tight linkage there. The small systems. The practices, we think it helps support the work that EPA is also doing with USDA to promote sustainable management with a small systems. Again, this initiative with USDA uses the same EUM Framework but absolutely targeted to the very small systems. Integrated planning. A number of people on the line may be familiar with the term "integrated planning. " The planning practices in this document really emphasize sort of building sustainability into all types of planning. Certainly planning, we stress in this document the importance of a robust alternative analysis to look at a range of infrastructure options and also stress strong collaboration with other community stakeholders during planning. So we think it supports the goals of integrated planning which EPA is certainly pushing very heavily with.

Slide: Next Steps – National Webinar Series

So let me talk just briefly here about the next steps. As Andrew said, we will do additional webinars. At this point we are planning to do three more. We have not set the date for the first one, but my particular thinking at this point is it will be early next year. I think that we will focus the next one on resiliency, operational resiliency, so we will be reaching out to get utilities speakers, just like we've done today, to focus on resiliency related practices. So we are looking forward to that one and then we will select the additional topics after that point. Depending on how well the webinars are received, we certainly would like to keep going with this because we think there's a whole lot of ground to cover. So this is the first in what we hope will be several more and we are off to a good start. As I said earlier, we have got four major co-sponsors for the webinars and I want to thank them certainly for their work not only in publicizing what this is all about, but helping

us with members of the steering committee that provided so much of the direction and the help that made the document what it is.

We are also developing what I will call a resource directory that will be put into the document. That is just sort of a listing of other resources, online resources, written resources, et cetera, et cetera, from various organizations organized around the key management areas, which we will put in as an appendix to this document. We're just about done with that so I hope to get that wrapped up in the next few weeks. So we are always looking to improve the document. Everybody uses the term "living document." I think this is a great example of what a living document needs to be, so I can see us certainly updating this from time to time as the state of knowledge across the industry improves and as utilities leaders identify other practices that ought to be looked at.

Slide: Today's Focus: Community Sustainability

So briefly, today's focus is on the area in the document we call Community Sustainability. You can read more about that in the document itself, but just a few points. As I think about community sustainability, here are some points that I want to emphasize to you. It's really built around the whole triple bottom line concept to sustainability, so it looks at the environmental, economic and social aspects of sustainability not only within the utility, but also within the community it serves. The practices in the document under this area of community sustainability talk about enhancing community social conditions, things like minority hiring, workforce diversification, improving economic vitality through waterways, and promoting environment stewardship through things like creating or protecting open space. The other thing that I always think of when I think of this particular area of community sustainability is the fact that it is really success is really highly dependent on partnership with outside groups. I know that applies to a lot of things utilities do, but I think in this area it is really most stark to me that you can't really succeed in the area of community sustainability without pretty highly developed partnerships with outside groups because they are so important to your ultimate success. So that's something I always think about and I think will come through the presentations that both Andy and Sue will be giving in a few minutes.

Slide: Thank You!

So again, I just want to thank everybody. We have a lot of people registered here today. We are delighted to have you. For those who were able to stay on the webinar for the full time, we will be providing you with an electronic certificate of completion. And just as a way to thank you for being on. And we are really enthused. We are delighted to be here. We hope what you hear today is useful. Once our speakers have completed their presentations, we will turn it back for questions and so please be thinking of your questions. You can submit those questions online based on the instructions that Kristen gave and then we will have those sometime at the end of this, hopefully, to share and answer as many of those as we can get to. So again, thanks so much. I appreciate it. We are delighted to have you today and I'd like to turn it now over to our next speaker, Andy Kricun, from the Camden County Municipal Authority in Camden, New Jersey. Andy, thanks a lot for being here.

Slide: Promoting Environmental and Community Service Leadership: An Essential Best Practice for the Clean Water Utility of the Future

Andy Kricun:
Well, thank you very much, Jim. I want to thank you and Andrew Sawyers for the opportunity to speak today on this very important topic. I think that the leadership that that EPA has shown again and again with these sorts of things is really important and impressive and I'm glad to have an opportunity to help participate in this.

So I will start with my title slide. That title is a mouthful, Promoting Environmental and Community Service Leadership: An Essential Best Practice for the Clean Water Utility of the Future. What does that really mean? I think what it means is that while everyone can do something, no one can do anything, but we all must do what we can. And clean water utilities, like my agency, can do more than most and I will talk about how we can optimize our resources and use our wherewithal to make the biggest positive difference from an environmental and community service perspective. I work for the Camden County Municipal Utility Authority. We're a utility that operates in Camden City, New Jersey which is just on the other side of the Delaware River from Philadelphia. Camden City is an economic distressed and one of the poorest in the nation and you will hear more about that as I talk but what is factored into is our reasoning and our wanting to make more of a positive difference.

Slide: You must be the change you wish to see in the world.

But as I said, that title is a mouthful so maybe I will turn to someone who is a bit more eloquent than I am. Mahatma Gandhi. "You must be the change you wish to see in the world." And I think -- so how does that reflect from a clean water utility perspective? Well, we are constantly telling our children to recycle and turn off the water when you brush your teeth and make a difference, try to help save the planet. The agencies that we operate, the wastewater management, have an incredible ability to do their part to make a positive difference. In the past and Jim's bell curve showed the utilities -- the majority of utilities were really seeing compliant as the ceiling of their aspiration and utilities of the future, again borrowing from what Jim said, the utilities of the future really see permit compliance as the floor. That's the minimum. That's what we must do, but we have tremendous amounts of resources and wherewithal to make a positive difference and help save the planet. I believe the 21st century and onward are going to be some of the biggest challenges of this century and the future is how to help save the planet from all the challenges and clean water utilities can do more than most. Certainly if I am going to tell my kids to turn off the water from the sink, we have to operate [indiscernible] and not just be permanent but remove as many of solids as possible.

Slide: Clean Water Utilities can Make a Positive Difference by

So how can clean water utilities make a positive difference? As I said, we can optimize water quality. Our permit limit is 30 parts per million but our plan is currently discharging four parts per million so the marginal amount of solids that are removed makes a big difference on the receiving water and, in our case, the Delaware River. Also, our wastewater receiving plant is very close to residential communities. Wastewater treatment can be inherently odorous and minimizing orders is a way to make a positive difference for the community. Again, above and beyond just mere permit compliance. In addition, achieving cost efficiencies to reduce rates or to hold rates, that is important, too, especially in the city that [Indiscernible] has economic distress, we want to do our mission, but we also want to do it in a cost-efficient way as possible. More than

that, and this is very recently, we thought we are doing our jobs environmentally by cleaning the water but wastewater treatment has a very large carbon footprint and use a lot of energy. So we can minimize our carbon footprint and implement better green energy initiatives to reduce our carbon footprint and minimize our impact. In addition to implementing green infrastructures, creating parks and rain gardens and all in all, in general, providing leadership for the clean water industry, both the environmental and community service. Clean water utilities can be the leaders or among the leaders in providing these services.

Slide: Camden City, NJ

So as I said, Camden City is one of the poorest cities in the nation and has one of the highest rates of violence and crime in the country. A very poor urban planning and there is little separation from the residential community and the industry. Our wastewater treatment plant is literally only 100 yards away from a residential community of 1,800 people. Yet we have an 80 million gallon per day wastewater treatment plant and also in Camden we have aging infrastructure. Our combined sewer system is over 100 years old.

Slide: Camden County Municipal Utilities Authority, Camden, NJ

My utility, the Camden County and EY Services, not only Camden City but 36 suburban towns as well, serves 500,000 customers, design flow is 80 and averages about 58 MGD and we discharge into the Delaware River.

Slide: Initial Conditions

So what is our story? Before we started to look at self-improvement, our effluent quality was suboptimal, frequently noncompliant and in fact, the main goal of our operators was really permit compliance and that was it. That was the ceiling and they would literally try to get as close to possible to the permit limit and sometimes they would go over it. We had a 22 percent rate hike back in the mid-90s. We had numerous odor complaints. We hardly had any odor control and the thought process at the time was well we are cleaning the water, we're protecting the rivers and of course, [indiscernible] we almost considered our neighbors as collateral damage in a sense, that it's unfortunate but necessary thing that people who lived near the plant are going to smell the odors, but we are doing great work because we are cleaning the water. But so the community, it impacted their quality of life. We had lawsuits both from the community groups and from the New Jersey Department of Environmental Protection for odors. In fact, in the late '90s privatization of our utility was even considered for all these reasons.

Slide: Implementation of Environmental Management System (EMS)

One of the things we did and Jim Horne has been, and Andrew Sawyer has mentioned it too, has been such a great advocate of this across the country and many of you know him for this, implementing an environmental management system, Jim has been a big proponent of that and we implemented an environmental management system and that was a turning point for our agency. And environmental management just very briefly is a systematic way of helping you identify what your core mission should be and then helping you harness your resources toward meeting those goals. So we decided over time that number one, our goal should be to optimize effluent quality. Not just meet the permits, but do all that we could clean the water and so, again if our permit limit was 30 parts per million, our goal should not be 29.9, it should be as close to

zero as the equipment could reasonably undertake and achieve. We wanted to optimize odor control because we didn't want to have an adverse impact on our neighbors. We wanted to minimize our costs, one, because it's the right thing to do and two, because we live – we operate in one of the poorest communities in the country, and so it's even more important. But we owe that to all of our ratepayers. And lastly, we wanted to develop -- not be the enemy of our neighbors but actually be leaders and we are an environmental agency so we wanted to be an environmental leader for our community and hopefully for the industry as well.

Slide: Current Camden County Programs

So here are a list of some of the things that we're doing in Camden County, New Jersey.

Slide: Optimizing Water Quality Performance

As I mentioned, optimizing water quality performance. We have improved our effluent quality from an average of 25 parts per million and during rain events almost always over that 30 parts per million limit. Our average for the past five years has been four parts per million. That is 16,000 tons of solids that used to go into the Delaware River every year that are now being captured by the wastewater treatment plant. As a result, the water quality in our zone in the Delaware River has improved and our regulatory agencies have noted that, that the water quality has improved, the dissolved oxygen levels have improved because we are removing more solids.

We also have, as I mentioned, a combined sewer system. We installed netting systems at the end of the combined sewer overflows for solids capture, even on a system that we did not own. We don't own the Camden City sewer system, the city does, but we knew that they did not have the resources so we added a netting system for them so that the solids would be captured and not go into the river.

Slide: Optimizing Odor Control Performance

Optimizing the odor control performance, again, going from the perspective of that just being the norm for wastewater treatment plant we decided that it was our goal -- we did not want to adversely affect our residents, that was too high a price to pay for water quality treatment. We needed to also minimize our impact on our neighbors. So we installed over $50 million in new odor control systems, mostly paid -- and also replaced an odorous compost facility with a sludge drying system and nearly all of that was funded through the EPA's State Revolving Fund and our State Revolving Fund agencies, the Environmental Infrastructure Trust that -- which enabled us to have the funding to make these improvements. Some of it was more – but some of it was changing the state of mind and the paradigm for our agency. We imposed a zero tolerance policy with respect to odors from carelessness and increased supervision as well.

Slide: Economic Stewardship

The third thing we worked on was economic stewardship. So these improvements of effluent quality and water quality, odor control could cost a lot of money. So in order to make this palatable to our ratepayers and also again, doing the right thing, we wanted to be as economically efficient and transparent as possible, and that's where the environmental management system began as a huge help because it really requires you, as you go through it,

enables you and requires you to be consistently efficient and transparent with your expenses and your operations.

So we optimized our operational performance to implement best practices. Again, we used a low interest State Revolving Fund to replace the capital and why was that helpful? Because when we are replacing -- we replaced all five major processes in the wastewater treatment plant. That obviously was a big help in improving our water quality performance. We also added odor control systems that hadn't been there but added. By doing that through the State Revolving Fund, the O&M savings from the new equipment, obviously lower maintenance, lower energy cost from newer equipment, more automation so fewer people; we reduced our staff by 40 percent, through attrition, not even via layoff because you had more automation, but we did all of this with the low interest State Revolving Fund that EPA funds provide.

Slide: Green Energy Initiatives

By doing that, the debt service on the additional expenses was lower than the operations and maintenance savings from the more efficient equipment. That's why we are able to do all of this, improve our performance, upgrade our capital and we held our rates for 17 years. And in fact, our rate today is $342 a year per household. It was $337 in 1996. So when you adjust for inflation, that's a 45 percent rate cut in real dollars to our rate payers while improving our performance. And that enabled us to do the right thing and provide a community rate benefit, a host community rate benefit to the Camden City residents who hosted the waste water treatment plant and therefore, bore more of the burden of the waste water treatment process than suburban towns who were sending their sewage to Camden. So we were able to actually give the host community benefit, improve our environmental performance, rebuild our sewer system, improve our odor control performance and still offer 45 percent lower rates in interest adjusted rates and largely because of increases in efficiencies and also because we used the low interest State Revolving Fund for our capital improvements.

We also -- so that is sort of us doing the right thing but as time went on and as more agencies were taking a lead in utility of the future initiatives, we also wanted to follow suit, so we wanted to minimize our carbon footprint and minimize our energy impact. We are a very large user of electricity, all waste water treatment plants are. Ours is a pure oxygen plant, which uses even more than the average conventional aeration plant. So we first took a four-step process; first we reduced our usage to increase efficiency, more efficient equipment, newer equipment. We installed a 2-megawatt solar panel system on top of our sedimentation tanks and we are in the process of installing a 3-megawatt digestion system or a digestion system that will take the – and the combined heat and power system will take biogas from the digester and turn that into electricity. Our hope is to have, by the end of 2016, have 70 percent of our energy drawn from green energy sources on site, the biogas and the solar panels and try to minimize our use of the grid. Our goal ultimately is to be 100% off the grid.

Slide: Green Infrastructure & Flood Control

In addition, I mentioned that Camden City's combined sewer system is very old. The combined sewerage overflows are a problem but so is combined sewage flooding. And Jim mentioned earlier that this [indiscernible] of community service and sustainability roadmap relies very heavily on collaboration and that's certainly true in our case where in Camden City it really has taken a village to improve the circumstances. I mean, basically, in our city when it rains, even a

very ordinary rain, there will be combined sewage flooding. And so you know, I live in the suburbs of Camden County and when I send my kids off to school with a raincoat and an umbrella, I just want to make sure they don't get wet. But here in Camden City, the parents have to worry about the kids having to step over puddles to get on to the bus and those puddles contain combined sewage or playing in the parks or things that have washed up from the combined sewer system into the parks or into people's homes. They have backups into their homes, they are not just -- the flooding into people's homes is not just stormwater, it's combined sewage, so it's really a social justice issue.

And luckily for us, many other entities agreed, so we partnered with the New Jersey Department of Environmental Protection which is the state version of the EPA, but also Rutgers, which is a New Jersey state university, The New Jersey Tree Foundation, and the nonprofit, Cooper's Ferry Partnership, as well as the city of Camden itself, who owns the system, to develop a green infrastructure program that to date has put in over 50 rain gardens throughout Camden City. We are daylighting a stream which was paved over in the 1920s to again capture more stormwater. We depaved an abandoned factory and turned that into a riverfront park, which again reduces the stormwater input into the combined sewer system and our partners, The Tree Foundation, have planted 1,000 trees to also catch the stormwater. So collectively we are removing over 100 million gallons of stormwater a year, but it sounds like a lot but it really is, pardon the pun, a drop in the bucket, but it's a really good start and it makes a difference in the neighborhood where we planted these gardens and done these improvements and the combined sewage flooding problem is less. That's a start.

In addition though, the most important thing in addition to green infrastructure is we've started the process of replacing and rehabilitating Camden City's combined sewer system again with assistance from the state revolving fund, the DPA seed, and our partners in New Jersey, the New Jersey Environmental Infrastructure Trust, providing low interest funding for us to replace these combined sewers. We are also helping the city, even if the city owns the combined sewer system, we just own the waste water treatment plant, we entered into an agreement with the city earlier this year to help them oversee their [indiscernible] operation so we can improve their performance and minimize the potential combined sewage flooding in Camden. It's a social justice issue. It's an environmental issue. People in our country or people anywhere in the world really should not have to worry about combined sewage flooding in their basements when it rains or their children stepping over puddles of sewage to get to their bus stop.

Slide: Environmental & Community Service Leadership- Camden Collaborative Initiative

So that flooding program or anti-flooding program was so successful, this is our fourth year of it, we decided to form a broader group, again with the support of the U.S. EPA. We happen to be in Region 2 so the Region 2 Administrator, Judith Enck from EPA, supported my agency's suggestion that we form the Camden Collaborative Initiative. So the Camden Collaborative Initiative is a collaboration among the U.S. EPA, specifically Region 2, although we get resources from all assets of EPA, New Jersey Department of Environmental Protection which is the state again EPA, ourself, the city of Camden and 25 other environmental partners like national partners at the National Park Service, the Nature Conservancy, and state and regional ones as well, like the Aquatic Academy of New Jersey or Rutgers, the state university, the New Jersey Tree Foundation. We have a total of 35 partners all in all to help us work on several environmental issues in Camden City, some of them that are actually even beyond our scope.

Flooding certainly would be right up our alley because -- combined sewage flooding that is, but Camden City has a very serious contaminated sites problem. There are air emission problems from factories that need to -- from the factories being very close to residential areas, which is the case in a lot of urban, old urban areas. Camden City's recycling program, we are trying to improve that. We are trying to implement an environmental justice and sustainability program and also environmental education. We've formed six working groups. At least 30-35 partners all work together as though we were the Camden City Bureau of Environmental Affairs. There isn't one because the city does not have the resources, but collective these agencies with no compact, no agreement, no consent order, just voluntarily have been brainstorming how to solve – or address and solve these environmental problems in Camden City.

And now the thing is, is you could say our wastewater utility is certainly involved with the combined sewage flooding but why the others. Well the others because we know these entities and we can serve as a leader. We don't necessarily – we are not going to be spending a lot of money into that, but we are providing leadership. We are providing a working space. They use our auditorium for meetings, our conference rooms and the point is all of the agencies provide brainpower and brainstorming so that we can work together to try to address these problems. And we've had quite a lot of success.

In addition, we work in the suburbs to help develop a sustainability initiative for the whole county and all 37 of Camden County's municipalities have now been registered under the Sustainable New Jersey Program doing some kind of sustainability work, whether it be recycling or solar or rain gardens, etc… So we again try to go beyond our mission or expand our mission, I should say, go beyond our original mission, expand our mission to be an environmental leader and a community service leader for the entire community.

Slide: Riverfront Access through Creation of New Parks

Another thing that we've done that's very important -- and again so a clean water utility can have a unique ability to do is creating riverfront parks. Our goal is to protect the water quality of the streams and rivers of Camden County and our region, so we've built three new riverfront parks. A fishing pier park, right on the Delaware River, which is named after Michael Doyle, who's a tremendous social activist in this community and someone who I admire greatly. I'm glad I get to say his name on the webcast.

Also we are building the Phoenix Park which is an old abandoned factory right on the river. So completely impervious surface to adding stormwater into the combined sewer system. It was a contaminated brown field site, so contaminated run off into the Delaware, and again, the community had no access to the river because it was ringed in by industry. We acquired – obtained a grant to acquire the property, demolished the factory, acquired funding from the state revolving fund to clean up the brown field site and turn it into a riverfront park. It took about a win-win-win. You remove contaminated runoff into the Delaware River, so there's a water quality benefit. You are removing 10 acres of impervious surface and getting that blow into the ground as opposed into the combined sewer system so reducing the potential for flooding and most importantly, providing riverfront access to our community, to our neighbors, so instead of thinking of us as the wastewater treatment plant that provides odors or adds odors and reduces the quality of life, we are now providing a riverfront park so they can walk from their neighborhood right back to the Delaware River and see a sunset on the river or have a picnic on the river. We are also working on developing a new park, a 40-acre riverfront park along a

tributary of the Delaware that we are responsible for. So we are really excited about our parks and again because it's a water quality benefit but it's also a social benefit for our ratepayers.

Slide: Community Sustainability: Doing the Right Thing By Doing the Smart Thing

So community sustainability is – we are doing the right thing, but it's also doing the smart thing, too. You know, you could say, well, this is really great but is this the smart thing? But doing the right thing is very often, it's not always the smart thing to do, too. Strictly from a bottom-line perspective, by doing these things we reduce our regulatory liability, we reduce our liability of litigation from residents. I mean the DEP is certainly not seeking the fines that they use to. They are our partners. The residents aren't looking to sue us, they are our partners, too. So there's a significant improvement in public perception. And again, as I said earlier, because we improved our -- how did we do this? If we went to the ratepayers and said, we want to do all these things and we want to raise your rates significantly to do so, I don't know that many people would have been enlightened enough to agree to do that, but because the first step that we had to do before we could improve things was get our own house in order, and that's where the Environmental Management System was so helpful to optimize our cost efficiency and our internal performance. Then it gave us the money left over to be able to achieve these other things and also hold rates and actually reduce rates over the last 18 years. So this, I think, is in essence a community sustainably – a sustainable program for optimizing our efficiency. Our regulatory agencies and our neighbors are not our opponents; they are our partners.

Slide: Sustainable and Effective Practices "Roadmap"

Here is a plug for the sustainable and effective practices, the roadmap the EPA has developed. I was really honored to be part of that and I'm glad to have the opportunity I had to promote it. It's a very useful way to connect your goals to your practices and to organize what you are trying to do and harness your resources for those practices. In addition, you're finding out what other people are doing, no one is doing everything optimally well. Everyone does some things well, but no one is doing their best in everything. There is an expert in something everywhere else that we can learn from so why not borrow from the roadmap? We certainly have. Our digestive and combined heat and power project was borrowed from our friends in Eastbay (indiscernible) Oakland, California. So we are borrowing from -- everyone can and should borrow from our partners in the industry. The roadmap is a terrific document that will help you on the course to do that.

Slide: Conclusion

So in conclusion, for those of you who have made it to the end and have not fallen asleep, the Clean Water Utilities of the Future, like our agency, like many of you out there, we have the opportunity and therefore, the corresponding obligation to become the change we seek, as Gandhi said, and do our part to help save the planet. When we ask our kids to turn off the water tap, or to help recycle, they are doing their part. We have so many more resources and opportunities and wherewithal so we can and should do our part far beyond permit compliance to do our best to improve the environmental -- the environment and protect the public health.

Slide: Thanks for Listening!

So thank you very much for listening. And I will turn it back over to Jim.

Jim Horne:
Andy, thanks a lot. That was a terrific presentation and really kind of a journey, you know, that you guys started on those so many years ago. And it is just -- the range of things you are doing in the community is amazing. So thank you very much.

I would like to turn it over now to Sue Hann who is the city manager with the city of Palm Bay, Florida. Sue, I think brings a slightly different perspective and that was clearly by design. She will tell you more about the city of Palm Bay, but I think Sue comes from a transportation background, but the one thing that I picked up in learning a little bit more about the city of Palm Bay is the importance of sort of collaboration, again, among many interest within a community, especially as it relates to water infrastructure and wastewater services. Palm Bay also, and I hope I get this right, Sue, Palm Bay was one of the cities on Florida's Space Coast that went through a very significant economic downturn in recent years due to the closing of the Space Center at Cape Canaveral. But even within those kind of dire situations was able to, to really maintain its kind of leadership role, not only in the state of Florida, but nationwide, as a sustainable community and it's been recognized for that by many different organizations. So, Sue, we are delighted to have you this afternoon. And I will turn it back over to you.

Slide: Moving Towards Sustainability

Sue Hann:
Thank you so much, Jim. A couple of things. First, I just want to comment. We did experience extraordinary economic downturn here in Palm Bay. We lost over 50 percent of our property values over the course of just a couple of years. But I do want to note that the Space Center at Cape Canaveral did not close, they simply shut down the shuttle program and that in itself did not really impact Palm Bay all that much. We are about 50 miles south of the Kennedy Space Center, but I do want to tell everybody, the Space Center is still open so please come visit us.

So a little bit about me. I'm currently the City Manager for the city of Palm Bay, but I am an engineer and I've been a Public Works Director for most of my 30 plus year career, and so while I currently kind of hang out in the policy realm, I really grew up in the operational realm. And so what I want to talk to today about is how to get this type of thing done when you are a really strong utility leader and you've got to start to deal in the policy realm to effectively accomplish your goals.

Slide: Why Sustainability? What's in it for Me?

So, we kind of start with the question, what's in it for me. So you know, in our community, we love to be sustainable but we've got all sorts of other issues and infrastructure problems that we are working on and so the sustainability model that many of you may be used to is not something that really resonates in our community. But, you know, our philosophies are very much aligned with the sustainability principles.

So I have pulled some principles out of the roadmap and you can see these are things that any community can embrace. It's just a matter of trying to frame your conversation to where it will resonate within your community. And I also want to just give a shout out to Jim and the team that put this document together because the 10 core management areas, while absolutely they are appropriate for effective utility management, they are also appropriate for effective anything management. And so as a city manager, when you come to me as a Utility Director to talk about

things on that 10 core management area list, I want to hear about customer service and I want to hear about performance measurements and, you know, several of the other things that are on that list because that will resonate as you try to implement these practices up through the food chain.

Slide: Seems Easy, But...

So I just wanted to comment that what we are all really talking about, and Andy did a great job talking about his journey, is that change is difficult. And if you are trying to move from where you are to where you want to be, that involves change. And change is always challenging especially if you are trying to change people's long-term habits or long-term perspectives, but in the really did a great job of framing the change in their philosophy, the change in their culture, both internally and their external communications, to where they can be much more effective in implementing sustainable practices within their community. They really found several ways to resonate with the community in terms of the results that they were achieving with their project in Camden City.

Slide: Leadership is Required

And I just want to also comment, our utilities Director is Dan Roberts. And he was part of the steering group for the development of the roadmap, but he's also a leader in sustainable practices here in Palm Bay. And I really have to give him credit because without Dan's leadership, we would not be where we are. And the "because we've always done it that way" button, that started in one of his divisions, his GIS Division Manager and that has really taken off throughout the city and it's made people realize that we can do things differently and we can achieve different results, but it does require leadership. And so when you are talking about moving from where you are to where you want to be in a sustainable framework, you have to remember that leadership is required, change is required and change is difficult.

Slide: Community Culture

So how do you get this done in your community? And as leaders, it's important to recognize that you must understand your own community's culture. So what worked in Camden City is probably not going to work in Palm Bay, the operational aspects are different, the community culture is different. So for example, environmental justice and social justice, those are big issues in Camden City. That's not going to resonate here in Palm Bay, and so I have to frame what we are doing a little bit differently.

It's also important to understand where you are on the sustainable practices continuum and I think the slide that Jim showed that had this sort of laid out in a continuum was really significant because you should start with where are you now. And think about where you want to go with a backdrop against the priorities in your community. And Jim mentioned that the roadmap is designed so that you can set your own pace. And I can't emphasize enough how important it is to understand the pace of change that your community can handle. So when you are thinking about implementing sustainable practices with your own utility and your own community, find the right pace. And too slow, too fast, neither works. You have to understand the right pace in your community.

Slide: Utility Services as a Focal Point

As a utility, you can serve as a focal point, and at least in our area, we found that it's much easier to initiate sustainable practices in the utility department. They are an enterprise fund so -- or general fund, they typically have more resources, they can do projects that demonstrate a return on investment so the financial stability or return on investment are things that resonate well with your City Council. It's easy to make that happen or easier to make that happen in your utility departments. And the benefits and costs are much easier to quantify than some of the other services that we provide at a municipal level.

I have also found that innovation and risk are better tolerated. If we were to go to electric cars in Palm Bay, that's probably not too well tolerated in our community, but some of the things Dan is doing in our utility are much, much better received in our community because the ultimate goal is we are saving money for our ratepayers, which is something that is very important in our community.

And then certainly it's important to celebrate the successes. So something good happens. I mean, Andy had a couple of slides through -- that showed great outcomes for his community and it's important to celebrate those and that will get your community behind you.

Slide: Utility Services Leading Sustainability

The other thing that's great about the utility services arena is that you can be leaders in sustainable practices. As I said earlier, it's much easier I think to implement some of these innovations within the utility framework and so you can try things that get you to resource recovery or get you to resiliency. The idea of customer engagement and, you know, getting beyond just the municipal operational aspect of sustainability and truly integrating sustainability as an individual practice within your community is something that the utility can really be a leader in accomplishing for you. Andy mentioned making sure my kids turn off the water and those types of things. And you can tell just by the way he talks, that in Camden City, this is something they think about. So in your community, figure out a way to get your customers engaged in the idea of sustainability and they will come to you wanting to implement more sustainable practices. And maybe it's not going to be in the utility. It might be in another arena in your city, but it's all good as you are moving your agency forward on a sustainability continuum. So really, I think we start at the federal level talking about sustainability and at the state level, but really it is that individual person's commitment to sustainability that is going to make a difference and that municipality's commitment to sustainability that is really going to make a difference in the long term. So, you know, from my perspective, I think utilities can be a tool to inspire individuals to act.

Slide: Link to Community Priorities

So in Palm Bay, and I think in any of your communities, as you are looking to move forward and make progress on the continuum, think about your community's priorities and how the sustainable practices you are trying to implement are going to resonate well with your community priorities. But what that means is you have to know what your community priorities are. And so blindly moving forward on really great operational improvements might turn out okay, but if you don't understand your community's priorities, it could certainly lead to a disaster.

So it also is important to frame what you are doing and communicate what you are doing in a way that resonates with your community. So, you know, my most significant message to you today is

understand your community and what is important to them and figure out how what you want to do with your utility and moving toward sustainability will resonate with your community's priorities.

Slide: Palm Bay's Learning Experience

So I'm going to talk to you a little bit about some of Palm Bay's experience. And I'm going to talk first about a project that was in our solid waste arena and how we really could have done things differently to achieve better results. Unfortunately, we had a big mismatch between the community goal, which would be lower rates for trash collection, and the sustainable practice of recycling. So we wanted to increase our recycling and our residents really wanted lower rates. So we did not do a good job of connecting those two things together. Our community was not really concerned about recycling. They were more concerned about their rates. So as we went forward and we talked about how great this was going to be for recycling, well, yay, that was terrific, but it really did not resonate in our community. So we have been bating our garbage contract now for over two years. We ended up reducing service, going from twice a week to once a week collection. And the purpose of that was really to inspire more recycling and it did. But it also inspired many, many unhappy customers to call me personally, as well as members of Council and members of our Public Works Department who administer the contract. We also have folks that don't pay their bill and it's just overall been a very agonizing experience and it's been divisive in our community, but from a sustainability perspective, the results are great. We have less fuel consumption in terms of the routes that are driven by our provider. And we have strong, strong increase in recycling. So that's terrific. But no one in our community is really talking about that. They're all talking about this contract, and the reduction in service and the rates and all of those things. So this is an example of good intentions, pretty good result, but really didn't connect as well as we could have with our community.

Slide: Palm Bay Utilities Best Management Practices – Cultural Evolution (1)

Our utilities department however, has really gone through a great sort of, I call it a cultural evolution. And so they have embraced environmental considerations in their business activities. They've developed a very strong performance measurement system. They are looking at reducing waste. They are really doing a good job of being a sustainable utility and moving forward on that continuum. And so what I think has happened in our utility is our director and his leadership team have really moved the culture internally in a way that is very significant for making progress in sustainability. And then what we need to learn is how do we engage our external customers a little bit better.

The other thing that's happened is our utility department has been a leader within the city and so they are setting the example for the other departments to follow. And we have, you know, friendly competition among our department directors and our leadership team members. We all want to do good things and so Dan comes into pretty much every staff meeting talking about an award that they've won in the utility world and it really inspires our other folks to want to be as good as our utility department. So I appreciate the efforts that they've made to kind of internalize utility or internalize the sustainable culture into their department. And I'm starting to see that resonate elsewhere within our departments.

Slide: Palm Bay Utilities Best Management Practices – Cultural Evolution (2)

So we've had good success, as I said, with internalizing sustainability into our culture. But from the utility's standpoint, the problem is we've got to convince our customers. We have a very unique situation. Jim mentioned we were the recipient of a major developer in the 1950s and '60s, ultimately went bankrupt, so we have about 100 square miles and about 104,000 people, many of whom are not served by utility services. So a lot of our customers have the option of going with a well and septic tank and that is really tough because we have, you might describe it as competition, that is a much cheaper alternative in terms of the upfront cost. So figuring out how to expand our utility in a way that our customers can afford is a really huge problem for us here in Palm Bay. And so we have been trying a variety of methods to talk with our citizens and collaborate with our citizens and treat them as partners to figure out how to best do that. We don't know the answer yet. But as the economy is improving I think we will certainly have more opportunities to come up with creative solutions to this problem, but it is an interesting -- it's an interesting sort of tug-of-war where we have a utility that is really well-managed, has a great culture, they are highly focused on sustainability, but we can't get people to hook up. So we have to figure out how to get that message out externally so that our customers embrace our utility and want to spend the extra money to hook up to our utility system or to help us expand our utility system so that it will reach our customers. And so what really we are talking about is figuring out how to make sure that we bring value to our ratepayers, value to our policy body, and just making sure that we give the context for what we're doing in a way that again will resonate with our community. And so, you know, rather than a system of you must hook up and we are going to charge you something you can't afford, we've been trying to figure out a way to make this a more collaborative partnership with our citizens.

Slide: Strategic Lessons Learned

So some of our strategic lessons learned is knowing what resonates and what doesn't. So you have to know your community, understand your elected officials, know your residents, know your businesses, know what happens when you adjust your rates to reflect whatever program that you are implementing in your community. We have had to really take a hard look at that here in Palm Bay and understand if we increase our rates because we need to, are our customers going to be able to pay and are we going to disincentivize those who may have wanted to hook up. So we've got to look at that really carefully and I know all of you need to do the same when you are making decisions about your utility as well.

Understand timing and things like elections and other key community events that might affect people's view of what you are doing. And then also, understanding your messaging. Talking about what you are doing in a way that will help people understand what it means to them in a framework that they can relate to.

Slide: Concluding Thoughts

And then I guess just some concluding thoughts, especially about Palm Bay. We turned out to be much more sustainable than we thought we were. As we took Dan's lead and started looking at some of our other city operations, we are actually in pretty good shape on the sustainability continuum. And we did not know because we never looked. And so you might be in better shape than you think you are. And if you start to do that analysis and you bring in some of your other community partners, as Camden City did, you might very well find that you are doing well and your partners can help you do even more. And I can't emphasize enough the importance of

partnerships. Andy talked about it, and I will too, we have engaged a lot of other agencies in our community who are contributing to moving the needle on sustainability.

Slide: It doesn't matter how many resources you have…

And I guess just to wrap up real quickly, recognize that you are eating an elephant and Andy certainly has done a great job in eating his elephant, the progress that he's made in Camden City is just enormous. And I am so in –I'm in awe of what he has been able to accomplish there given the magnitude of some of the challenges in his community. But he's done it through great communication and great collaboration and reframing their communication and their culture around getting these things done for their community. So it takes leadership, it takes change and it's always very exciting, but I would encourage you to start taking that first step toward eating the elephant that's in your community.

So with that I will turn it back over to Morgan. Thank you very much.

Slide: Thank You!

Jim Horne:
Thanks, Sue. This is Jim Horne again. So now, we will move into our question and answer phase. Sue that was, just like Andy, that was terrific. I thought Sue brought a nice and slightly different perspective from someone who as she said has come up through the operational ranks, but has now got a look at sort of communitywide and bring that perspective into it. I can imagine that a lot of Sue's time is spent dealing with elected officials, and I will say that carefully. That's probably what she spends most of her day doing. So I think the sort of the message that you sent about communicating and understanding the pulse of your community really is great, Sue, so thank you very much.

So, as I said, we will move into questions now. Kristen has been monitoring the questions that have been coming in. And so I will turn it over to her to just throw out questions to the speakers and we will answer as many as we can. Those that we can't get to, we will try to answer as soon as we can via e-mail. So Kristen, back over to you.

Kristin:
Thanks, Jim. Rob Greenwood is actually going to read the questions for you. So here is Rob.

Rob Greenwood:
Great, thanks, Jim and Andy, and Sue. Greatly appreciate the presentations that I would expect the very large number of participants that we have on the webinar today did as well.

We had several questions come in about the concept of sustainability and so actually, I'd like to Andy, first turn to you, then Keith, then to Sue, and then to you, Jim, on this, on this particular topic. And what I'm going to do is I'm going to read three of the sustainability-related questions that came in. I think you will see they are very interrelated and then again, look for a response starting with Andy. So the first question was, "Please provide a commonsense definition of sustainability that can be communicated to reluctant governing board members to gain their support in this effort to start down the road". So that was the first sustainability question, but again, you will see that these are interrelated. The next is, "Please define sustainability. Is it case specific? Is it based on meeting CMOM (ph) in the case of POTWs? Is it Camden County

improving its current situation?". And then finally, "How does the sustainability movement work with asset management? Aren't the goals the same?". So Andy, again I think you can see that the dots connect here among these three questions in terms of people on the hunt for both how to think about and communicate sustainability in order to get traction in the community, but also how it relates to other well-known programs within the water and wastewater sectors. So, Andy.

Andy Kricun:
Yes. Thanks, Rob. Well, I mean, I think maybe I would try to define the sustainability – maybe if you substitute the word preservation. And so if you look at it that way, sustainability really does apply to every aspect of what we are doing. So it does apply to asset management because our goal, we can't be a sustainable utility if our assets are not maintained properly and managed properly so that they will continue to do the work conveying sewer -- sewage to the wastewater treatment plant and treating it properly and optimally. So when we -- asset management is certainly a part of sustainability. So is doing our best to optimize our environmental performance because we want to preserve the planet, preserve its resources so we want to preserve our water resources or our planet's resources in general. When we optimize our environmental performance, we are helping the planet become more sustainable. As a utility, we are not only an environmental agency but also a utility, like the electric company, and the gas company, so if we want to be sustainable to our ratepayers, we have to provide a good product, a sustainable product. That means be economically efficient. It means maintaining our assets in a consistent way so that there are not large spikes in rates because we have to do -- replace everything at once or have a lot of emergency repairs, which obviously increase costs and we do things -- preventative maintenance results in lower overall costs because you are avoiding emergency repairs or reactive maintenance. So that's how you can be a sustainable utility. We also want to help preserve our community and help it be a sustainable community so we, at a minimum, we at the Clean Water Utility don't want – we want to do no harm. Meaning we don't want to adversely affect their quality of life with odors, especially in our case where the wastewater treatment plant is very close to a residential community, but we also want to the help the community be more sustainable by improving – by planting trees and improving the air quality and improving quality of life. So I think, all-in-all, a Clean Water Utility's concern and it's also it's opportunities intersect with many sustainable -- sustainability in many ways; sustainability of our assets, sustainability of the environmental resources that we are helping to protect, sustainability of our utility as a whole, sustainability of our community. And last thing I will say is helping to build a sustainable industry because the more we disseminate our own best practices, the way EPA Office of Water is doing by getting these practices out there, getting the practices of the best in class utilities out to as many of the other utilities as possible, that helps make us a sustainable industry as well.

Rob Greenwood:
Andy, thank you. We only have at most about five minutes left to answer questions, so Sue, I'd like to that same question to you quickly and then I have another question for you that I would like to go to, and then one more for you Andy. So we will try to take -- wrap up on the sustainability question, one more to Sue and one more to Andy. So Sue, go ahead.

Sue Hann:
Okay, great, thanks. I love the question about commonsense definition of sustainability to communicate to your elected officials. I would never use the word sustainability if that is the issue you are fighting in your community. I would talk about reducing flooding. I would talk about clean water, I'd talk about cost savings, I'd talk about energy savings. You are going to be sustainable

if you achieve all those things. So think about what's important in your community and frame it that way. And I would just sum that up by doing the right things right or doing the right things very well that work and resonate in your community.

Rob Greenwood:
Great, thank you. [Overlapping Speakers]

Jim Horne:
Rob, Rob, this is Jim. I would like to just spend like 30 seconds here. We tend to look at sustainability. We've also looked at it in terms of the types of capacity -- capacities that we think utilities should have to become sustainable and without dwelling on that point too much, I'm going to share with Rob and Kristen, so they can share with the group, sort of a little working definition, very informal, nothing official from EPA, so let me just say that, just kind of a working definition based on capacities that we've come up with and think make sense. So I will share that with the group and maybe I think that will sort of take the conceptual idea of sustainability back down a level. So, back over to you, Rob.

Rob Greenwood:
Great, thanks Jim. So Sue, just quickly to you, and this is, I think, very much a corollary question. We had this come in, "what will happen to the communities that will never be compliant?", and I'm reading compliant there, not in compliance with standards but communities that will never be supportive of, you know, these types of interests. So thoughts on that, I guess, how do you get maybe more compliant or responsive?

Sue Hann:
Well, I think I would go back to my observation that you might be more sustainable than you think you are. I would never have defined Palm Bay as sustainable five years ago, but as we started to sort of dig into our operational practices, we found that we were pretty darn sustainable. So I would not start with the thought that we are never going to be sustainable, we are never going to be compliant. I would start with the thought that we can move from where we are today to a different place tomorrow that's better and start eating that elephant one bite at a time and look at Andy's example for inspiration. Certainly, he must have thought whatever at the beginning of this that he was facing insurmountable challenges but one bite at a time and has made enormous progress for his community.

Rob Greenwood:
Great. Sue, thank you. And so, Andy, I have one, I guess I would almost call it a tactical question and then, Jim, we will hand it over to you for wrap up. I believe this question was asked in the context of the slide you had about odor, Andy. And it says "For the EFM, what enforcements, guidance, coaching and counseling were used in the zero tolerance policy?", so I think this is someone on the hunt for how did you get internal to your organization, alignment behind that zero tolerance policy?

Andy Kricun:
Thanks, Rob. A three-pronged approach. First, made it very clear that the old way of thinking that odors were just an acceptable, understandable byproduct of wastewater treatment process, we had to change that paradigm. That's the first thing. That we owed it, that it was not acceptable, it wasn't part of doing a good job. That it was a part of our mission to not adversely affect our

neighbors to that maximum extent possible. Second, I listened to the operators and asked them what equipment do you need and what resources do you need in order to achieve this zero tolerance and zero odor policy. And so they told me that certain equipment was causing – or lack of equipment, older equipment or lack of odor control systems in these particular areas and they needed more supervisors. So I asked them what they needed and provided it and then third piece, held them to that standard once they had what they had asked for. And the first time – I only had to do this once, someone left the door open causing an odor event. It was very clearly traceable back to this particular operator. He got a five day suspension without pay and I hated to do it because he was a good guy, but I never had to do it again. So three things; change the paradigm, providing the equipment and resources that the operators need, and then holding them to that higher standard.

Rob Greenwood:
Great. So, Andy, thank you. Other questions had come in. Again, unfortunately, we don't have time to take those verbally, as Jim mentioned. There can be some e-mail follow-up around those. So Jim, over to you for wrap up.

Jim Horne:
Thank you so much, Rob. And again, thanks to everybody that was able to stay on. I hope you got a lot out of it. I would just ask everybody to take a look at the document that you were sent and that I spoke about, setting aside terms, go back and look at the practices, specific utility management practices in there without getting hung up on the term sustainability. Look at the document for what it is. Specific practices that can be implemented in your utility and sort of look at that as a way to gauge where you think you are now and as Sue so eloquently said, where you need to be going. So again, thanks a lot.

We will be providing certificates of completion for people who were able to stay on the webinar. We think this has been great. I think there's a mechanism for providing feedback on the webinar. We are always interested in hearing people's thoughts. We plan to continue the series and the next one will focus on the whole subject of resiliency.

So again, so much thanks to everybody. Thank you to both of our utility speakers, you did a wonderful job and I think it was definitely time well spent. So EPA thanks you again. Have a great day. And we look forward to having you participate in our next webinar coming up in a few months. Thanks so much.