**WorkforceGPS**

**Transcript of Webinar**

**Meeting the Workforce Challenges of the Water Sector: A Competency Model Approach**

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JENNIFER JACOBS: Now without further ado, I'd like to turn things over to our moderator today, Pam Frugoli, O\*NET, CareerOneStop, Competency Model Team lead, U.S. Department of Labor Employment and Training Administration. Pam?

PAM FRUGOLI: Thank you and welcome to everyone today. Thank you for joining us. We're glad you could join us today and be able to hear from three individuals who bring a different perspective to this conversation.

After some initial introduction from me, we'll hear from Jim Horne, our partner from the Environmental Protection Agency, who will cover the current challenges of the water sector's spacing and highlight a few strategies that this apprenticeships and OJT, on the job training opportunities, which have proven to be key in meeting these challenges.

Then I will introduce you to the competency model and the competency model clearinghouse where they are housed and show you how they can be used. And then we will hear from Bill O'Connell from the National Rural Water Association, who is currently doing, you know, the hard work out in the field just like many of you are to take the tools available and develop training strategies and apprenticeships for the industry.

So today's objectives for the webinar are to explore water sector workforce challenges, discuss how competency models help, learn about some key elements of the specific model for the water and wastewater sector, and then as I mentioned engage with the National Rural Water Association.

We want this to be an engaging discussion with you today. We will use some polls to gage your experience with the concepts we're covering and as Jen mentioned, you can also type in the open chat window at any time to ask questions or even share your own successes.

We challenge you as you participate in this session and hear the information presented today to think about ways you can apply competency models to the work you do. And towards the end of our time today, we are going to ask for your ideas on now you may implement similar promising practices.

So then this is our first poll question, to find out what type of agency you represent, water and wastewater utility, states and primacy agencies, technical assistance providers, state and local workforce boards or one-stop operators, apprenticeship agencies, private business or other.

And there you have the poll. I see that you're responding. Thank you. You just click those little circles. We have a good distribution and we're also happy to see some of our apprenticeship representatives out in the field joining us today. Oh.

I see a few people still typing, but I think we want to move on to our presentations, so next up is Jim Horne from Environmental Protection Agency.

JIM HORNE: Hi everyone and thanks so much, Pam. Thanks for sort of letting us join the party here. Again, I'm Jim Horne. I'm with EPA's Office of Wastewater Management at EPA.

And also, I want to recognize a colleague from EPA, Leslie Temple, who is with our Office of Groundwater and Drinking Water. The reason that we're involved in this is because our two offices at EPA are the people that really deal primarily with the water sector and particularly with water sector utilities or systems, both on the wastewater side and the drinking water side, so I'm glad Leslie's able to join as well.

Let me highlight a couple things right up front here that are really critical to today's discussion. They may be things that everybody knows, but they're always things that are worth repeating. So the water infrastructure in this country is critical to everybody's health and safety. It's maybe the one most critical sort of a service I guess that governments at all sort of stages provide. Everybody knows that, but it's critical to everybody's wellbeing.

The other thing is this aging, quite frankly. A lot of utilities and other water infrastructure resources are reaching near, coming to the end of their design life and they have to be replaced and let's face it. While the federal government has provided an awful lot of money over the years for water infrastructure, probably in excess of $50 or $60 million, the amount of federal funds available these days are not what they used to be.

So the challenge is obvious. The infrastructure is aging. The workforce is also aging. I think why we're here today is really as a group of people to really help you understand not only the challenges, but some of the ways that we can begin to attract workers to the water sector and making sure that they're both skilled and qualified to maintain such a critical resource.

It's not an easy task. It's a task that many sectors of the economy are facing, but it's become more acute in the last few years because the number of water workers if we will, or as we call them operators at EPA, are expected to retire.

So as Pam mentioned, we've got a variety of stakeholders participating in the webinar today and you'll, many more that will probably be seeing it through the recorded version. So it's great to have all these people together. We all have a stake in helping solve this challenge and it is a big challenge and something that's not going to get solved by one part of the government, one agency, one utility, one organization.

As many of you may know, the Brookings Institution released a report a few months ago and showing in this slide are some of the key points that were made in the Brookings report. There's been a lot of other information out there about the water sector workforce including a GAO report, but the Brookings report I think really highlighted, you know, some of the key challenges that most of us know about, but also some of that real opportunities that are in front of us for the water sector.

From the Brookings report, workers in these what we call water jobs earned competitive wages and often faced lower education barriers to entry, to getting a job in the first place. They can also develop extensive knowledge and transferable skills that cut across multiple disciplines.

Water workers are needed in every state and every area of the country. The Brookings report makes that clear. This is not just an issue that's facing our urban populations, although they have some particular challenges. It's also very much a challenge facing the thousands and thousands and thousands of small and rural utilities that are out there. And that's why it's so important that I think that we have some, we have the representative from the National Rural Water Association here to be with us.

Also, from the Brookings report, some water occupations, the median age for many people in the water accruement operators in particular – I'm sorry – is older than the national median. I guess that's important. It's not a whole lot older but they are older. And again, I think that goes back to the point that we're going to be losing a lot of these people in the next ten years and now is the time to really pay really close attention to this through tools like the competency models and other things that will be described later on in the presentation. So it's really critical here.

The point is that everybody needs to be involved. This is an attractive sector in many ways to work in and it's also probably one that not as many people know about as we would like to, as we'd like to have involved. When you say, well would you like to work at a water treatment plant or a wastewater treatment plant, some people say, well why would I like to do that? There's a lot of competition out there in other sort of infrastructure-heavy sectors, including transportation and others. So the challenge is great.

Another challenge that we also all know about is that many people coming out of high school have a lot of opportunities these days. They may be more interested in working in other sectors or simply, as we found, don't know enough about the water sector to really know what an attractive opportunity it is, both in terms of the wages, but also in terms of the, you know, in terms of the sort of the stable nature of the work. And I think that's the really important part to mention.

So what I'd like to say basically is that this is really important. I first leaned about the competency model at a meeting of some more utility leaders. These are larger utilities from around the country about 18 months ago and I sort of raised the point and I got a lot of blank, blank looks like what is that? What is that?

And I thought that was really surprising, so I came back to DC and I reached out to my colleague Leslie Temple and we talked with the people at Department of Labor and said, we really need to get the information out there about this really important tool to more people that we deal with. And so that's really important and I'm so glad that Pam and her team are able to be with us today because it is important.

The other thing that I would say about apprentice programs is apprentice programs I think are a great way to get people into the water sector. Some people will say it's, you know, it's basically more I guess applicable to people in rural areas. Maybe that's true. Maybe that's not. I'll give you an example. We deal with a large utility or a larger utility here in the DC area. It's called Alexandria Renew right across the river from us. They have an apprentice program that they've worked, developed with the state of Virginia. It's a great program.

The thing I like about apprentice programs is that you get a lot of really good on the job training and you get a job at the end. So the people that we talked to over at Alexandria Renew were really excited. They go through an extensive two-year program and they have a job waiting for them at that utility if they want it. So I think apprentice programs have a really, really important role to play in addressing the water sector workforce challenges that we're all facing and it's a great way to learn.

And so I think that's – I really applaud rural water, the Rural Water Association for stepping up, certainly on behalf of the tens of thousands of smaller and rural utilities that are out there that really need this. And so I think it's great. I think the competency model gives a really solid grounding, if you will, to help people understand how they could use this in their apprentice programs and hopefully, we'll see a lot more of those popping up.

The last slide is a quote from the Brookings report and it basically – you can see what it says. But while we here at the national level want to do everything we can, and I think we're doing a lot in the federal government to support the water workforce challenges, we need to also be cognizant of ways that we can help locally-driven actions.

And you know, help people think about new strategies for basically addressing workforce challenges from apprentice programs perhaps to different hiring practices at the local level that would make it easier to bring people on board. And finally, as it says here, there are a number of regional collaborations or coalitions including things like the, you know, the Bayworks program and the (barriers ?) that are really important. And I think having people understand things like the competency model can help support those kinds of regional collaborations.

So at the end of the day, our challenge here is to build the additional financial, technical and programmatic capacity for people out there as I like to say in the real world, who are working, you know, to address and improve the water sector workforce to help them succeed. And so that's what we endeavor to do, and I think today's webinar is a great example of some great work done by the Department of Labor working with a group like Rural Water to help do that.

So let me say thank you again for being here. As Pam said, we're really impressed with the kind of diversity of the people that we see signing on. I hope you enjoy the webinar and I hope we get a lot of good questions.

So thank you again. I think it's now time for me to turn it over to you, Pam.

MS. FRUGOLI: That's right, Jim. Thank you. And we're going to – I'm going to present the competency models, but we're going to start off with another poll question about, you know, have you ever heard of competency models? Are you an expert, experienced but learning, what is one, and I've heard of it before. Here you go. Here's your poll.

OK. That's a good distribution and it looks like we don't have too many experts, so I won't bore you too much when I go through and describe the competency model. Well, we're distributed in thirds almost among the last three. OK. Thank you.

OK. So just to start out with what is a competency? The capability to apply related knowledge, skills and abilities to successfully perform functions or tasks in a job setting. And a competency model is just a collection of all the many competencies that together define successful performance in a particular industry or field. A competency model itself is a resource that is an in-product, you know? You can use it for curriculum development and for developing the framework for an apprenticeship program or OJT, internships, things like that.

And for an example of competency might be critical and analytical thinking, which just means project reasoning and analysis to address problems. And we at ETA have worked with industry associations and partners, education partners, business partners, to develop some 26 competency models because we found them to be a convenient way to organize and communicate the competencies needed in specific industry sectors, so those 26 different sectors.

So who uses competency models? Because they have many applications, there are a number of different types of people who find them useful, including employers and industry leaders, trainers and educators, human resource professionals, public workforce professionals and economic developers.

So competency models can be used for different purposes. One is to identify and communicate industry needs, which is often very helpful when you're trying to do a sector strategy and bring educators, industry and the workforce systems together to help with employee recruitment and retention. Developing curriculum as I mentioned in training programs. Develop industry-defined performance indicators or assessments and credentials, resources for career exploration and guidance and sometimes a national framework for certification programs.

So the features of competency models is that they are national, crosscutting and industry-wide. They represent a broad industry level, so they themselves are not occupation-specific. So because of that, workers in an industry sector don't necessarily have the same level of competence for every single competency in the framework as you'll see when we get to it. And they describe the competency but do not describe the standard of performance. That's the kind of thing that you would develop at your local level when you're actually applying the competency model.

So this is the home page of what we call our competency model clearinghouse site. It's at CareerOneStop.org/competencymodel and that's the website we use for accessing all of the industry models. And as I said, we have 26 models now and we use this pyramid framework for all of them just to organize the information. You can see that there's these colored sections. So we have foundational competencies, industry-related and then we have a place on the pyramid for occupation specific, but we don't fill those in in our models. That's for when they get applied locally.

And you may want to use the four arrows if you can't see all the slides as we go through. As we get into more detail, go to full screen, just show the slides for a while and then you can go back if you need to type in a question.

OK. So expanding out, you can see that the foundationals here include personal effectiveness competencies, academic competencies and workplace competencies. And then we have two bands of industry competencies, usually really crosscutting industry-wide technical competencies and then some competencies that may be specific to certain sectors of an industry.

And now let's look specifically at the water and wastewater competency model. First, I want to note that we have a number of champions for the model. Folks that we've worked with is the EPA and NRWA and other groups. I won't read them all but we, you know, have broad representation and participation.

So this is the model itself and we will take a close look at the industry tiers. That just shows you the big picture. So for example, here in the industry-specific things, we include things such as supervisory control and data acquisition SCADA systems, integrated water resources management, cybersecurity and information security aspects.

And I'm not sure that everyone would even think about the role of cybersecurity when it comes to water utilities, but given the fact that so many controls nowadays are automated and things are connected via the internet of things, cybersecurity is in fact a real concern when it comes to water. Then there's decentralized water, wastewater treatment systems and water resilience are all competencies that are included in the details of the model.

Because – we're not showing it here, but when you click within any one of these blocks, you will get a lot more detail. And then you can also download the model in PDF format, in Excel so you can work with it. And there's a number of worksheet formats, you know, that you can use depending on your application. There's one for curriculum. There's one for working with industry. So this is just giving you sort of a peek at the model.

So we do want to talk about how they are used. The Colorado Department of Public Health and Environment worked in partnership with the Rocky Mountains section of the American Waterworks Association to develop core curricula and improve the quality of training being offered for operators working in the state's public water system. No. There wasn't a lot of consistency from one, you know, water utility to another and they wanted to have them all trained to the same level and covering the same materials.

And we actually wrote up that. What you're seeing here on your screen is what we call a competency model in action. It's a case summary that we talk about specific applications and if you go to the WorkforceGPS platform and – oh. People have been actually saying that that link is not working in the web links.

TODD COHEN: Jen provided that in the Q&A box, so if the dud link does not work for there, you there, then look in the Q&A box.

MS. FRUGOLI: Right. But you can also go to the competency model clearinghouse website that we've discussed and go to models in action and just type in water and wastewater in Colorado and you'll find it. So that's another way to get at it.

So this is just a brief overview of what's covered in that case summary. What Colorado did is they, those two partners worked together and convened additional training partners to develop a curriculum to improve training and make it more consistence across the state, including doing a root cause analysis. And they held a series of round tables to develop the areas of focus defining the core curriculum and identifying training gaps that they needed to address and develop curriculum for.

So and the tools that they used were the competency model. As I mentioned, it comes in these various formats, the PDF document, a Word document that you can edit, an Excel spreadsheet. And then as I mentioned, there's these worksheets to identify credential competencies, do curriculum analysis, employer analysis and gap analysis, like you can do a gap analysis of your existing workforce, so those are all downloadable. There's also a tool in the competency model website where you can pull up a model and then customize it online, but sometimes you have to log in for that. The worksheets are something that's easy to download and share with a larger group.

And so finally, this is the model that Colorado – excuse me – adapted. They added actually the occupation-specific tiers as well, so this is what they did to customize the model. They took, they started with the national model that's on our website and then they built it out and made it specific to Colorado and this is their graphic showing then.

They also reviewed all the topics that they're covered in their industry certification exam and occupation-specific technical job tests. So actually, some people might want to go and look at the Colorado model and see what they have done. They focus on specific skills that an operator in the state needs to know in order to progress along a career pathway, and so I wanted to give you that one example.

But today, we have the opportunity to hear first-hand from another organization that has used the water and wastewater competency model recently to address workforce training needs. So I'm pleased to turn it over now to hear from Bill O'Connell from NRWA. Thank you, Bill.

BILL O'CONNELL: Yeah. Hi. Can you guys hear me?

MS. FRUGOLI: Yes.

MR. O'CONNELL: Wonderful. And thanks, Pam. Thanks for the introduction and the opportunity to discuss, to talk about the benefits we got when we used the water sector competency model while drafting our national guideline standards of apprenticeship for water and wastewater specialists.

OK. But to start, I want to give a little background on the National Rural Water Association. We're a trade organization and we represent the small and the rural water and wastewater systems. We were formed in 1976, a couple years after passage of the Safe Drinking Water Act and we're composed of 49 state rural water associations. We cover all 50 states. Atlantic states is Connecticut and Rhode Island with staff from Puerto Rico and that gives us a footprint in every state as far as for rolling it out, a national guideline standard of apprenticeship.

When we went to DC, we immediately had conversations with EPA and they started talking to us about asking for help in getting the small and the very small systems' staff to hear Safe Drinking Water Act training sessions. They've been doing it for a few years and they were getting great attendance, but very few small systems and virtually no very small staff and that's a big deal.

They represent the vast majority of community water systems nationwide. So in 1978, working with EPA, we rolled out a program where we would host the training sessions and EPA trainers would actually do the instruction. As primacy became more widespread, we eventually switched that over to where the training was done by state primacy folks along with the fact that now we had rural water trainers.

And that was a big deal as far as being able to communicate with the small systems, the operators, and explaining what they had to do to come into compliance with the Safe Drinking Water Act. This has been a very successful program and we're really happy that we're continuing to provide this training and technical assistance to EPA.

Right now, we have near universal Safe Drinking Water Act compliance among all community water systems and so that's a big benefit for EPA. For the National Rural Water Association, we were able to have a nationwide program of training and technical assistance and that was a benefit to us, but the big beneficiary were the small systems folks.

They got the help they needed when they needed it and they continue to need that help, they continue to get it. And it's just knowledge and the experience working with EPA obviously, but also the small systems is why were asked by EPA to participate in the water competency model update to make it more user-friendly to the small systems.

Timeline. In October of 2015, we began work with the water sector competency model update. And I've got to do a quick acknowledgement here, Kathy Winesoft [ph] with the Wyoming Association of Rural Water Systems. There were several people for me from National Rural Water involvement. She carried most of the work and I'd say Kathy and Joy Barra [ph] with RCAP really were the key drivers in updating this and making this more user-friendly for small systems.

But that said, you know, through the process, we all learned a great deal about the competency model and the breakdown and requirements for positions in the water and wastewater industry. Having the specific topics broken down really helped us later on.

And it also put us on the radar for the Department of Labor and in July of 2016, they invited Matt Holmes, our deputy CEO, and Sam Wade, our CEO, down to Dallas where the energy sector is headquartered for their apprenticeship meeting, where they explained the apprenticeship program to them and encouraged us to consider doing a nationwide program for water and wastewater operators. And whatever they did, it worked because Sam and Matt came back and immediately started working on the process.

And in November, we launched the Workforce Development Center at our Duncan office. Now, this was largely symbolic, but it committed us nationwide, that we were going to go ahead and follow through with this program. And we began to work then on the National Guidelines Standards. We brought in staff to meet with the people in Dallas.

David Gather (sp) from the energy sector was a huge resource, as was Shannan Walton. Shannan is the Department of Labor's director of apprenticeship for Oklahoma and they were great resources. They were always there to help us and guide us, but so was the competency model. We actually reached in and pulled a lot of the topic (sensations ?) from that and it gave us great comfort, confidence that we were kind of going down the right path.

So we worked with, on the competency model from January through the end of May, submitted it to the DOL and in July, they certified the national standards. We went to Denver in August where the Alliance of Indiana Rural Water became the first state to have a program registered, an apprenticeship program registered with these guidelines.

A little background. The guidelines are a shell. They're for the states to use as far as for how they want to fill out and meet the needs of their state. The real work is done when they develop the registered apprenticeship program at the state level, so Connie Stevens and the staff at Indiana Rural Water made just incredible resources.

All right. So we're actually –

MS. JACOBS: I'm going to interrupt real quick before you start this slide. There's a few people that are just mentioning if you could speak a bit louder, so if you could.

MR. O'CONNELL: OK. You bet.

MS. JACOBS: Thanks.

MR. O'CONNELL: Does this help?

MS. JACOBS: Yeah. That sounds better.

MR. O'CONNELL: All right. At NRWA, our apprenticeship program was designed to establish a nationally recognized credential, yeah, that certifies the proficiency of the water and the wastewater specialist in rural water in rural America.

And successfully completing the program, the apprentice will receive that certificate signed by the U.S. Department of Labor Secretary of Labor, which is huge. That's a big deal. It's a big resource and we believe that this credential will establish a new baseline of knowledge and expectations for the operators, system operations specialists in rural America.

The programs and the apprentices benefit from a systematic approach training with a focus on technology and innovation and that's another thing is that when you normally go into a utility, you learn from the people that are there, but you're kind of limited to what they know. By having the additional training requirements under the apprenticeship program, we feel that these guys will have a much more in depth, much more rounded education and appreciation.

Apprenticeship program, it's a proven model and we also feel that this, and Jim mentioned that, that this is going to really help enhance the workforce participation in this industry because it's no longer about who you know.

 Anybody is capable and able to go ahead and apply to be an apprentice in these states at the state Rural Water Associations and then we hope that this will help with a little bit of the diversification of the workforce in the water industry in rural and small communities. Ultimately, the program is designed to establish a pipeline of highly qualified water and wastewater system operations specialists that will protect their community itself, an investment in the water and wastewater system which is probably the largest investment these communities make.

This is also going to help the government agencies like USDA's rural development, huge provider of loans and grants for the water and wastewater industry and EPA's federal funding too. And hopefully, it will improve the services that are provided to rural America.

OK. So the water and wastewater utilities that hire the apprentice, they're the backbone of any apprenticeship program. We acknowledge and they acknowledge that they understand they could be training a system operations specialist for another utility. That's a risk that they take to ensure the best qualified people operating the drinking water systems and the wastewater systems that serve their communities.

They have to be willing to commit to 4,000 hours of structured mentoring over a two-year period for that apprentice. That's a huge commitment. And in return, they're going to receive an apprentice willing to work for two years at a structured program designed to have a minimum down time.

 After the regular work day is done, the apprentice still is required to obtain 288 hours of related training to broaden and deepen their understanding of the profession. Works out to about three hours a week, but you know they're free to get it as the classes are available in their state. When they successfully complete it, they will be at a full wage at a utility where they know all the characteristics. And you know, think seriously of the utility. It's truly being trained to be the experts at their utility along with the fact that they will have their national certification.

OK. So on the job training requirements. This is where we reached in and took the sections right out of the competency model. Just to use a couple of them, they have safety. In ours, we identified it as tools, equipment and workplace safety. And then underneath it, that's become familiar with the tools, the materials used on the job.

 Understand the use of personal protective equipment and the safety procedures for your utility. Demonstrate general planned safety and security operations. Plan and set up work areas for safe crew and public and confined space and traffic control zones. And perform all work in compliance or conformance with those regulations.

Under system operations and maintenance, we all need them. Develop a working knowledge of the operation methods and procedures of a water treatment and distribution system or collection and treatment system for wastewater. Perform installation inspection of new lines and services. Understand and implement customer service. Perform weight detection and understand water loss control or (INI ?). Meter reading; proper testing of the competency of the lines and sizing.

Demonstrate an ability to read and interpret maps and drawing of a water system or wastewater system. Assist with the installation, maintenance, repair, of treatment plants, storage tanks and distribution systems and develop a general working knowledge of preventative maintenance troubleshooting and repair of mechanical equipment.

We have quality control. Learn to perform all aspects of sampling, monitoring and testing required to maintain compliance with federal, state and local regulations. Identify the normal and out of range values. Maintain open communication and report results to supervisors and learn emergency response procedures.

Under the related training instruction, the 288 hours, again we lead off with safety rules and practices, personal protective equipment again, OSHA standards and state guidelines. Become certified American Red Cross in CPR, AED and first aid. Understand safety data sheets. Call before you dig. And two very important areas are excavation, trenching and shoring and confined space entry and hazardous gasses. We way too often read about people who have been injured or killed working in those areas. Fire and safety, electrical safely, traffic control and chlorine safety.

Under laws and regulations, we have Safe Drinking Water Act basics, working with regulators. Big deal. State laws and regulations, regulatory compliance, sampling procedures, compliance plans, sanitary surfaces and emerging contaminants. And then there's security and emergency response. Critical infrastructure sector designation, understand that. Understand the physical security and cybersecurity awareness for utility.

And the human element, which is one of the hideous ways to defeat the best laid plans. Make sure your people are aware and that you're aware of the requirements for cybersecurity and physical security. Understand the vulnerability assessments that each utility has. And then we also require that they pass the National Incident Management System ICS 100 and then understand emergency plans and processes. Under operator maps, it's problem solving, conversions in mathematical operations, calculating chemical dosage and intention time, foreign rate calculations and horsepower calculations.

To date, we have 15 states that have a registered apprenticeship program under our guideline standards. Three of those states have active apprentices working with utilities and another state has a couple of dozen apprentices, water and wastewater, getting ready to start in November.

So the program has really exceeded our expectations in the way it's been developed and the way it's been embraced by everybody from our staff and the people we work with to the state apprenticeship folks. They've been a great resource and help to work with, as has the primacy agencies. They understand the benefits.

I'm going to close with a photo of the very first apprentices under the National Guidelines Standards. These are the Alliance of Indiana Rural Water initial six. They're wastewater apprentices and they just recently finished up the first quarter, the first six months of their training and according to Connie, they were very positive in their reviews and they got great reviews from the people that they work with.

And with that, I thank you for your attention and I'll turn it back over for questions and answers.

MS. FRUGOLI: Thank you so much, Bill. That was terrific. It's really great to hear real life examples and things that are working out in the field and it makes us, you know, to realize that the competency models really do have real life applications and are helpful to people. We appreciate it.

MR. O'CONNELL: You know, and I did feel that Matt said that. But you know, our states actually use those too. You know, that's a resource that we make and we encourage them to use.

MS. FRUGOLI: Great. Thank you. So now it's time for – go ahead. I'm going to turn it over to Todd for questions. Thank you.

MR. COHEN: Yeah. All right, Pam. Yeah. Hi. Hi everyone. Todd Cohen, Maher & Maher. So I'm going to take some questions. I got some now. It's your time, your chance to type in some questions. You know, obviously ask anything about the apprenticeship you heard, or competency models, models itself, cross-walking the curriculum from models to these types of programs. So type in your questions. We're going to try to answer as many as we can. We've got some good time for that.

So while you're doing that, let me just start off with a couple of easy ones and Bill, I'll go to you first. Can you say a little more about how this information, whether it's the competency model, the apprenticeship model that it's built from, is sort of disseminated to your members? And then what – we've got a lot of community colleges and local workforce entities on the phone. What would your advice be to them for how they could take action in their state?

MR. O'CONNELL: OK. I'll answer the first part or the last part first and that's for the community colleges and workforce development people. Reach out to the state associations as they're developing their prints. I know several of them have in their apprenticeship documentation that they're going to do much of their training through community college or other training providers as a resource. So the earlier you get involved with them, I think the better off you're going to be.

And what was the – oh, and we send the information out. We have a technical advisory committee that are made up of executive directors that have registered apprenticeship programs, so we meet regularly. We obviously would e-mail and conference call, teleconferences. We're able to keep communicating with our states.

MR. COHEN: Great. Thanks, Bill. And somebody's simply asking about the nationally certified apprenticeship program in New Jersey. So I'm looking at the map. It looks like it's unavailable. What are your – I mean can you say a little bit about the states where it is unavailable or what you know about progress or things happening?

MR. O'CONNELL: Well, you know, it's a local decision with the state Rural Water Association on how aggressively we're going to pursue the program. And so, I really can't speak to the systems that haven't been, that I haven't spoken with as far as where they are. I believe everybody is considering.

I mean, I know they're all looking at it. They're all talking about it, working on about it, but again, it's a math of commitment. And right now, the major funding we have was a grant from CoBank to help us set up the program. And so, but again, you split that over the states and it's not a lot.

MR. COHEN: Yeah. Yeah. Got it. All right. Keep (throwing back ?) and throwing the questions out there. I'm going to keep getting to them. Pam, let me just go to you for a minute. So you talked about some of the tools and resources that are tied to the competency models that help local area sector partnerships sort of customize it.

I wonder if you could, without getting into the absolute nitty gritty, but I mean, could you say a little more about how that might work? So let's just take say the curricular analysis worksheet. I mean, how have you seen that work, taking that work competency model and using a tool like that to sort of do a little curriculum? Yeah.

MS. FRUGOLI: Sure. I'll be glad to do that. So for example, if you wanted to pick out the content for a course, you can look at the competency model and decide what things you need to include in it, you know, because there's certain modes of like say you have one on operation and maintenance. You have a course on that, so you would look at that section of the competency model and make sure it covers the things that are listed there.

Also, we've seen when there are actual programs with multiple courses that on the worksheet you can put the courses across the top and then you have the competency down the side and you go and check and see this competency is covered in this course and this competency is covered in that course.

And so, you can do an assessment of whether the program covers all of the competencies in the model or if some of them are just omitted by accident. And also, if you're covering something more than once, like in more than one course, you would want to make sure that the course is still on the level of knowledge, you know, that you don't just repeat the exact same material in each course and people feel like they're hearing it twice. You know, you would want to advance it. So that's some of the ways that the curriculum worksheet has been used.

And I would observe that I see there's a lot of questions about apprenticeship and we don't actually have an apprenticeship rep from our office here on speaking with us today, so we're going to do some follow up on that. But I would note that if you go to careeronestop.org, there is an apprenticeship finder and you can actually find out like your state apprenticeship representatives or the regional representatives and you can get in touch with them.

So what you know is that the NRWA guidelines are already approved and so you might be able to say, you know, we're interested in getting this. And if you're a water utility, you are an employer and you could, you know, say I would want to be a sponsor and you could find out more about what it would take to do that.

So I'm not sure we can get to all those apprenticeship questions, but we will definitely look at them and share it with our apprenticeship office and prepare some responses.

MR. COHEN: Yeah. Thanks, Pat. Thanks, Jim. Do you know – I wonder one that we might be able to tackle. Bill, you might be able to say a little bit about it is it just goes back to your first answer about, you know, working with the state Rural Water Association. Somebody's asking about, you know, just the existence of other state associations or even regional associations. They mentioned knowing them as an example. Can you help just shed a little bit of light on what the relationship is between those state agencies and some of these others as it relates to this sort of program?

MR. O'CONNELL: Right. Yeah. This program is again, its target is in the smaller systems and it's also targeted at organizing crew, our state associations. There is also an option. I saw somebody from Charlotte mention that they have five apprentices and you're right. A lot of the larger utilities already have an in-house apprenticeship program.

As a matter of fact, I researched a lot of what they had. You know, it was a great resource. This one's kind of targeted for a smaller system and at an individual state level, I really can't comment. I don't have any specifics. I'd have to talk to that state Rural Water Association.

MR. COHEN: Yep. Got it. Pam, let me go back to you. Again, back to the competency models and adapting that regionally. Who have you seen, what entities have you seen do it really well that sort of that convening – I mean, I assume it's you've got your industry, you've got higher ed there, you've got the workforce system. I mean, how have you seen that work? Who's in the room generally for those kinds of conversations, whether it's water or even some of the other industry sectors when it comes to adapting a customized –

MS. FRUGOLI: Right. Well, we often work at the national level. We work with national industry associations, but then there often is a state branch of that association and, you know, then you would want to work with key industry employers that are in your local area. That's the biggest thing about customizing the models is we try and cover, you know, all of the competencies, but there are specifics.

And I really like Bill's point about, you know, when you do an apprenticeship, you actually learn the specifics of the system that you're going to be working in. So it's those kinds of things that we wouldn't capture, you know, like there may be a specific brand of equipment that you would want to cover and so you would have the representative of the utility participate.

And then of course, like you're local community college, you know, the right people there who are building curriculum or building the courses. So it's really important to have, you know, industry and education brought together and often the public workforce system or the local or state apprenticeship representative can assist with, you know, making it, turning it into a program.

MR. COHEN: All right. Great. Thanks. So we've got time for a couple more, so folks, just you know, feel free to continue to throw those out. And Bill, Pam, what is the – how often are the competency models, I mean when do you expect to revisit them at that national level or what we see? I know it wasn't that long ago that you did this latest wrap, but how often does that piece work?

MS. FRUGOLI: Well, we sort of revisit them every five years. We check in with the industry, but if industry partners get back to us, you know, and say hey. We feel like there's an update needed. We will go ahead and work with them. You know, some associations are more active and involved than others and also, some fields are just more impacted by technology and so they change more rapidly than others you know.

So, you know, it isn't just up to us. It's also, you know, people can come to us and say hey. We think it's time to do this. So you know, for example, our automation and electronics folks, because they are impacted so much by technology, they come to us more often, but about every five years.

And also, the thing is when you can do customization, you can update the model yourself, you know. And if you want, you can share it with us. When you do that work now, we don't see it, either in the tool online or in your worksheets, but if you think it valuable, you know, we'd be glad do have an e-mail done to us, so you know, and share it and then we'll be aware of some of the things that are going on in the field.

MR. COHEN: Great. All right. Let's do some last – so again as Pam mentioned, some of you were asking about specific apprenticeship questions. We're going to do our best to get back to you with some of those answers, but let's wrap up with maybe some final words and Jim, bring you back in here too.

Bill, let's start with you. I had asked earlier about, you know, your advice to the workforce system and community colleges. What about the other – what other advice to the utility folks that are glistening here and how they might, you know, go deeper on the education training side and try to, you know, emulate some of the good models we've done?

MR. O'CONNELL: I, you know, that's kind of a tough one, but we have had a couple of larger utilities adopt the standards for their in-house training program. And you know, every state modifies it somewhat to meet their specific state requirements.

MR. COHEN: Yeah.

MR. O'CONNELL: You know, I was just going to also make a comment. I mean the innovation that comes out every time someone else brings in a different state registered program is, there's a little note you write out and when you get ready to redo or revise the national standards. Those are the ones that you want to draw back on.

MR. COHEN: Excellent point. Pam, what about you? Any last words of wisdom?

MS. FRUGOLI: Well, I see a question about what type of outreach is being done to make a lot of utilities more aware of the competency model and the apprenticeship program. And so, this webinar is one of those efforts. And it will be, it is being recorded and will be saved, so if you think of other people who you wish had heard this or, you know, knew more about this, you'll be able to send the link to the recording to other people.

I think we also plan to do some follow-ups, some peer learning groups, and definitely because this one is so tied to apprenticeship, we're going to reach out to our apprenticeship office and see what we can do because I see that some of you are saying hey. We don't seem to have an apprenticeship program and we want to have it. So we'll make them aware of that, that that is an important need.

MR. COHEN: All right.

MR. HORNE: This is Jim. I think you turned to me briefly, but I was just, I was going to echo what Bill said is I understand the model. I think that many parts of it are highly relevant for utilities of various sizes, so I would encourage people to take a look at it across the utility community and see; you know?

Again, it's adaptable. I think we learned that, but I think the basic core skills for operators are in many cases very similar, so I see its applicability across the sector, not just exclusively for the very small utilities.

MR. COHEN: Fantastic. Well thanks. Thanks all. Pam, I'm going to turn it back to you for the last word of the matter.

MS. FRUGOLI: OK. Great. I just want to thank all of you for joining us today and for the good questions. We will continue to look for ways to provide you with additional opportunities to continue these types of conversations, so be on the lookout for new announcements. And I want to thank our partners, Jim at the Environmental Protection Agency and Bill at NRWA for participating today. Thank you.

And before you log off, the participants, I want you – we would appreciate it if you could complete the poll that's going to be coming up shortly on the screen to let us know how we've done today. And feel free now to reach out to us. I think my e-mail was on that last slide. It's Frugoli, F-r-u-g-o-l-i.Pam@dol.gov if you have ideas or suggestions. Thank you.

MS. JACOBS: I just want to echo what Pam said, so I just want to thank everyone and ask you all to stay logged into the room for just a minute longer just to provide us with some feedback.

(END)