

>>Lucianna Ciocci: Good afternoon. Welcome to DOE's Selections Webinar on the Hydroelectric Efficiency Improvement Incentives, EPA Section 243. I'm Lucianna Ciocci, senior external affairs advisor for the Hydroelectric Incentives Program. and I will be starting us off today.

We have a few housekeeping items. This webinar is being recorded and a transcript of the webinar will be made available on DOE's website. If you have audio issues, try calling into the webinar via the phone number included in the meeting invitation you received. And we will also not be holding Q&A within this webinar.

Additionally, none of the information presented herein is legally binding. The content included within this presentation is intended for informational purposes only related to the Hydroelectric Efficiency Improvement Incentives. The purpose of this webinar is to provide an overview of these incentives, selections, and key trends identified by the hydroelectric incentives program team. Any content within this presentation that appears discrepant from the guidance language is superseded by the guidance language. And all attendees are strongly encouraged to carefully read the relevant guidance document. A link is within the chat to the 243 webpage.

For today's agenda, we have Maria Robinson, director of the Grid Deployment Office, joining us for opening remarks; Shana Wiseman, program manager for the hydroelectric incentives, will provide an overview and selections highlights; Nick Palso, senior project manager for the Hydroelectric Efficiency Improvement Incentives, will provide selections, trends, and highlights of projects; and we'll end with next steps and closing remarks.

And with that, I'd like to introduce Maria Robinson, director for the Grid Deployment Office. Maria, thank you for joining us today.

>>Maria Robinson: Thank you so much, Luci. Good afternoon or good morning, depending on where you are right now. My name is Maria Robinson, and I'm the director of the Grid Deployment Office, here at the U.S. Department of Energy, and delighted to join you today to kick off this webinar.

If you're joining, you're probably very aware that on February 2, 2024, the Department of Energy and the Grid Deployment Office announced nearly \$72 million in hydroelectric efficiency improvement incentive payments for 46 hydroelectric facilities in 19 states across the country. These investments will support the continued operation of the U.S. hydropower fleet, ensure a more reliable and resilient electric grid system, and this announcement, of course, represents DOE's largest investment in hydropower facilities to date. When combined with some private sector commitments, these incentives will help catalyze approximately \$468 million in total public and private investment for these efficiency improvements.

This funding is crucial. Hydroelectricity is one of the biggest suppliers of clean energy in the United States, representing nearly 30% of the overall renewable energy generation to

provide a reliable and flexible source of power. Simply put, hydropower is the key to the nation's clean energy future. But of course, the challenge is that our existing hydropower fleet is aging, with some equipment dating back to when William Howard Taft was our president. And so, while many people think of the Bipartisan Infrastructure Law as a bill that supports roads and bridges, it also supports critical energy infrastructure like hydropower. And that's why we, here at the Department of Energy, are so excited about this announcement to increase the efficiency of our existing fleet.

We received widespread interest in this program demonstrating the incredible demand for increasing the efficiency of our existing hydro fleet. The average age of facilities selected for these incentives is 75 years old, meaning that this funding will go a long way to help protect and extend the life of one of our oldest and most important sources of carbon-free electricity, in some case extending the life of hydro assets by up to 40 years. What's more, based on our selections we anticipate a 14 percent average increase in efficiency, nearly 5 times the mandatory 3% rate required by statute.

Before I turn it over to the team to discuss these selections in more depth, I want to shout out our team and the incredible folks behind this program—Tim Welch, Shana Wiseman, Luci Ciocci, Nick Palso, and Madden Skuba—for their tireless work to get this funding out the door. And of course, we couldn't do this without our partners in the Water Power Technologies Office, led by our good friend, Jen Garson.

While I have your attention, in this vein, I want to let you know that on January 31st, Tim Welch did officially retire from his federal career after 35 years of outstanding public service. And we're so grateful for all the contributions that Tim has made, not just in the hydroelectric industry but to our office writ large. And we know that everyone who has worked with him will miss him dearly. And part of this is getting to the exciting announcement that Shana Wiseman will be taking over as the new program manager for the Grid Deployment Office's hydroelectric incentives program.

So, thank you for joining us today. We look forward to discussing in more detail. And turning it back over to you.

>>Shana Wiseman: Thanks for that introduction, Maria. Hello to those of you who don't know me, and welcome. As Maria said, what BIL did was it authorized—through BIL, Congress authorized DOE to make payments, in terms of incentive payments, towards owners and authorized operators for existing hydro generation facilities at existing dams. These payments are meant for capital improvements that will improve efficiency by at least 3%.

Just a little background: These incentive payments are up to 30% but shall not exceed 30% and no more than \$5 million per facility in any fiscal year. So, we're talking about big improvements with big money. What these improvements will do under this incentive is provide a more efficient use of water and some improvements actually will potentially improve generation.

So, to backtrack a little on how we got here, with the Hydro Efficiency Improvement Incentives solicitation for applications opened up in March. Of course, as Maria mentioned, this was a really popular incentive. We had a lot of interest. And so, that application window closed in late June 2023, and eligibility letters went out in early November. As you all hopefully already know, we made selection statements just last Friday, on February 2nd, and went ahead and sent out those selection letters to potential awardees.

So, some of the highlights that we just would like to talk about here for a minute is that out of all of the applications we received DOE was able to select 46 hydro projects for payments for the incentives. That's nearly \$71.5 million in total incentive payments. It's a really big deal. The average incentive payment for a selectee is \$1.6 million, and of course all types of projects were received, so the incentive payments range from close to \$50,000 to up to \$5 million, which is the cap.

But what's really interesting, and actually, I think, more exciting, is that approximately \$468 million in total public and private investment is going to be made toward improving efficiency from these capital improvements. That's a big number and a big investment by the industry, with an average total public and private investment of just over \$10 million. And again, as Maria mentioned, although 3% was the requirement for efficiency improvement, we saw an average of 14% efficiency improvement rate overall in the applications we received.

We received, as I mentioned, a lot of interest and a lot of applications. Out of the applications received, there were 87 eligible applications. Of those eligible applications, 46 projects were selected to enter into negotiation agreements for potential awards. Of those 46 projects, just over a third of them were small projects and then the other two-thirds were large projects of 29 projects selected. So, again, with those small projects, that was just over a third of the projects selected, and that means a total of \$13.4 million incentive payments towards small hydro projects. Of course, the large projects, that total incentive payment is \$58.1 million across those 29 projects.

And with that, I want to turn it over to Nick Palso. He's the senior project manager for the hydro improvement incentives. And he's going to give you a look into the trends that we saw among the applications.

>>Nicholas Palso: Hello. Here you can see a map of all of the projects and their distribution. It roughly follows the distribution of hydropower in the United States, with the exception of the Upper Midwest having several—or many projects. New York state, as you can see, had the most projects selected out of ... There's eight there. And New York state also tends to have a large number of hydropower projects, many of them smaller. And keeping in line with that, many of the projects we selected from that state were smaller hydro projects. Also, the West Coast tends to have larger projects, and some of those were selected for this.

If we break down the technical trends here to look at what kind of capital improvements are being made, you'll see here, looking at all of the projects, that unit upgrades were by far the most popular choice to improve efficiency. These included turbine improvements or a combination of the turbine and generator. We found out that many of these projects, some of them have very old equipment running there and they're looking to improve it to increase efficiency. There's also water conveyance upgrades. Trash racks were one we saw several times. One project was to refurbish their penstock. We also had what we are referring to as balance of plant, a lot in controlling the controls and automation, trying to upgrade the projects to industry standards. We then broke these trends down, as we'll see in the next slide, to large projects and small projects.

For large projects, again, we see that the unit upgrades were the most popular, followed by balance of plant, water conveyance upgrades, and then, at the bottom, three of them had improvements made in multiple categories looking to improve not just one but several of those or sometimes even others.

And then, small projects—which we had 17—again, unit upgrades are the most popular means of increasing efficiency there: only one of them was working with water conveyance upgrades, two balance of plants; and two with multiple categories. And next, we'll look at some projects that stuck out at us as being interesting and having some features we'd like to share.

The first of these is the Meyers Fall project located in Kettle Falls in eastern Washington state. This is located on the Coleville River, which flows into the much larger Columbia River there at Kettle Falls. It's a small project at 1.2 megawatts. And this project has been operating for over 100 years. It began as a hydroelectric power operation in 1915. However, that site has had some kind of water power generation going on since at least 1823. And you see there, it's the oldest continuously operated water power site west of the Mississippi River.

The equipment that they are using to generate electricity right now is the original equipment from 1915, so their application was asking for replacement—money to help replace their original brass, or, sorry, bronze turbine runners with modern stainless steel ones. And this will help increase the efficiency. They're also looking to upgrade their project rotors to handle the increased power output from this. And these improvements will increase efficiency at the plant and allow it to keep operating well into the future.

The next project we thought was interesting is up in Alaska. It's the Blind Slough project in Petersburg in southeast Alaska. This is another small project. This one's 2 megawatts. It is municipally owned by the city of Petersburg. It began operating in 1921, so another project over a century old. And it's part of an isolated electrical grid there in southeast Alaska that connects some of the far-flung communities there. And it has no connection to the rest of the continental electric grid. This project is also in need of refurbishment. They're looking at improving, sorry, installing new turbines and doing a generator rewind or replacement if needed. The equipment they've been using dates back to 1955, so it looks like it's already been replaced once in its long life but is in need of it again. The

penstock also requires refurbishment, and this will allow the penstock to operate for another 3 or 4 decades. So, both of these repairs would improve efficiency and also keep this project operating decades into the future.

And a final one we wanted to highlight is the York Haven project in York Haven, Pennsylvania. It's located on the Susquehanna River. If you see, in the bottom photo there, it's just downriver from the Three Mile Island nuclear generation plant. This is a larger project at 19.2 megawatts and it began operating in 1904. It has one of the first installed Kaplan turbines in the world. The project involves the installation of Francis runners for their Francis turbines on their units eight and 10. These new runners, in addition to gearbox upgrades, will increase the efficiency of these individual units. It'll also increase the hydraulic capacity, which will allow the project to harness the water they're getting more efficiently and also allow this project to operate well into the future.

And with that, I will hand it back to Shana.

>>Shana Wiseman: Thanks, Nick. So, for these incentives, the next steps, DOE is going to enter into project metric and milestone negotiations with the selectees. This is expected to last anywhere from 2 to 3 months. These negotiations are to determine the metric and milestones of the project in order to complete the improvements. Of course, as we mentioned on this webinar, GDO has received significant interest in this incentive. So, as of now, all funding has been committed through this one solicitation.

However, to note, this is just one of three hydroelectric incentives in the program. We also have the Hydroelectric Production Incentives. We plan to open the application window for electricity generated and sold in the calendar year 2023 in spring 2024. So, that's coming up and something to look for. We also have Section 247. That is the maintaining and enhancing hydroelectricity incentives. And of course, next steps, for that incentive, applications are still being reviewed, with anticipating announcing those selections for negotiation in spring of 2024. So, there's a lot to look forward to in terms of these hydropower incentives.

And with that, I'll turn it back to Luci.

>>Lucianna Ciocci: Thank you, Shana. OK. That concludes our webinar today. We'd like to thank you for joining us. And please be sure to sign up for alerts from the Grid Deployment Office. A link is within the chat. Again, thank you for joining us today.

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