

MARTY ROSENBERG
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#304

MICHELLE MANARY INTERVIEW

Hi and welcome to Grid Talk. Today, we're very pleased to have with us, Michelle Manary, who's Acting Deputy Assistant Secretary for Energy Resilience Division in the Office of Electricity at the U.S. Department of Energy. Hi, Michelle, how are you?

A: Good, thank you for having me.

Q: Well, we're very pleased because you as it turns out, lead the Department of Energy focus on National Transmission Policy and how it's going to affect clean energy and Department of Energy's Clean Resources in this country. It's a very important job and you've got \$80 billion dollars in your pocket so we're going to discuss how that money's going to get allocated and what industry folks need to know about what DOE is doing with this money. First, I understand the "Acting" part of your name is your long association with the Bonneville Power Administration where you've been CFO, so tell me what skill sets you're bring from BPA to this position and why you're excited to be doing this.

A: Sure, so yes so as you said, I was most recently the CFO at Bonneville Power but before that; that was only about a three-year stint. Before that, I've spent a majority of my career in either the transmission business line or the power generation side of the house; been at Bonneville a little over 23 years so the majority of my time has been actually spent there. The most recent before the CFO, I was vice-president of transmission, marketing and sales for Bonneville Power Administration and so dealt with a lot of everything from tariffs to interconnection queues to new construction to kind of a lot of that type of working with the customer in order to get things built or get things delivered, and so, that's where a lot of my depth, and that background is the reason that I was loaned to DOE for a couple of years to help standup or re-standup I should say, transmission; really focused on planning, permitting, technical analysis and deployment, which is the money, on a number of things.

Q: You're sitting really at the hub of probably the most important thing that's happening in the electric grid universe right now which is an \$80 billion dollar infusion that's allocated over the next five years, so let's jump right in and if you can, tell us some of the funding mechanisms that are being developed and when will funding start to flow?

A: Sure, so that \$80 billion-ish to the DOE comes in several different flavors and so everything's kind of continuing on from solar and battery and kind of that generation or storage-side but you also have probably about \$20-ish billion or so on the transmission side like you said because it doesn't do you any good to generate if you can't get it to the load and so, so you right; it's a lot of focus on transmission and actually figuring out what it is we need to do with that. Within that transmission there's several different buckets of money. About \$15 billion of that is getting more out of your existing system so whether it be Smart Grid or kind of technology on your system to get more out of it, whether it be new wire technology, new sensors, new flow mechanisms; anything like that—lot of it's focused on that. I'd also say there's a resiliency so we've seen in this country the last few years whether it be ice storms or hurricanes or wildfires, the need to have a resilient grid is just overwhelming and we've seen that a lot and so, I'd say the majority of the wires money I would say, focuses on that. There is though, actually a new program that is the Transmission Facilitation Program. That's one that's actually going to be ongoing. It's not...it doesn't have a time limit like the other ones do but that's the \$2.5 billion and that's a revolving fund from Treasury and that is really aimed at projects, transmission

projects that are large-scale interregional or large rebuilds. And so, the rebuilds have to be, have to produce an additional 500 megawatts capacity and so the major line rebuilds but the money can go to that or it can go to projects that are new that are a thousand-megawatt capacity or more, and then there's actually a third element for Alaska, Hawaii, and the U.S. Territories that if they have microgrids they want to hook up to a transmission system, the funds can go to that as well.

Q: Well, let's focus on \$2.5 billion which in the context of \$80 billion is not a lot of money but in the context of itself, is a lot of money.

A: Yes.

Q: And you talk about how it's going to go for large-scale interregional systems. DOE wants to spend on infrastructure that will link together independent operating grid regions.

A: Yes.

Q: Of course, we know Texas's ERCOT is sitting out there. Do you envision folding them into the national grid in new ways?

A: What we envision so this will be actually driven by the industry itself and so the approach here, the thinking here is as we standup the program is we would run a solicitation and those that want to connect the regions, those that have projects that are really in the national interest cause that's what the

big difference here is. Taxpayer money versus ratepayer money but this is actually a very unique program because what it does, is shares the risk upfront and so DOE can come in and then subscribe up to half of the capacity of...half of the planned capacity of the line or up to a four-year contract so that's kind of the sidebars as far as we can go but we can come in with eligible entities which are a number of folks developing a transmission whoever they may be, if a project is in the national interest and so that's why we talk about interregional connecting up regions and they're in a position that they have, they have some interest, they have need but it's not quite forward enough because transmission takes a long time to build as you and I know. It could easily go to projects that would like to help strengthen ERCOT's interconnection or its design needs.

Q: On that point, do you...Texas had a major problem with a winter storm not too long ago that caused a lot of suffering and loss of life. Do you find new appetite from Texas decision-makers to explore new ways of integrating their grid into the national grid to protect against those scenarios?

A: Yeah, that's a good question. We're probably not there yet. Right now, because we're developing the program...part of that program though is putting out...a lot of these grid infrastructure

programs will put out a Notice of Intent that actually outlines the program, talks...and then I know for the Transmission Facilitation Program we're also going to have a Request for Information on certain elements because we're trying to set this up so it works for the industry. That's when you start involving...kind of seeing what the interest is, the states and others. Right now, we're working with the utilities or the third-party developers but we will pull in the states or the decision-makers if there's interest in that area.

Q: So, you talked about the length of time it takes to develop these transmission projects; they're technically complicated, financing is difficult and there's political issues to deal with. Yet, as you well know with the North Pole and the Arctic rapidly heating, we don't have a lot of time according to a lot of experts to get these clean energy investments enabled with the transmission we're talking about. So, if it takes 10 years or longer, what is DOE thinking right now on ways to possibly shortcut it? You talk about funding this for five years, some of it continues beyond that five years, but still, can we frontload it and get things done more expeditiously?

A: Yeah, that's a great question. I actually heard from a utility exec yesterday. They said, "Yeah, transmission is one where at the beginning when you're planning it, everybody wants

to make it as small as they can cause it's expensive, but by the time you actually build it, they're like, why didn't you increase it? Why didn't you do it to the max because by the time it actually gets deployed, the need is there." Two things we're looking to do there: first is, that's the Transmission Facilitation Program and is supposed to help with that funding. If you have demand that's not quite all the demand that you know it's going to be there, that's where DOE steps in and says we'll commit to that amount and so you can get going, so that's actually supposed to give some front time where developer or the utility, whoever it is, is trying to get that kind of business case, DOE can help make that business case get going. I'd say the second area though is really, we are working across agencies to try to streamline or make efficient the Federal permitting where possible. And actually, there's a group, it's an acronym called FPISC which is the Federal Permitting Council basically and it's not just transmission. It's any project that has to go across multiple Federal agencies and so it is one that the developer can choose to apply for or not, or work with but basically what it is, it coordinates all the Federal agencies that you have to get permits through. And so, there's timelines and reports and stuff like that and so that is something that developers do and can elect to use in order to help get through

the myriad of different Federal organizations that already get siting and permitting. But it's basically the Federal permitting and it's a one-stop-shopping for Federal permitting. But it is actually...there is a whole group and the woman that runs it, Christine, is wonderful but it...she pulls it. You get schedules together and so she keeps it driving, so there is...that is an elect something that a developer can elect to do if, especially if they're going through multiple Federal agencies, they can elect to go through this process.

A: Is there anything that this Administration and the Department of Energy thinks Congress could do to kind of get things moving faster in terms of transmission infrastructure? And I realize once you ask that question, it's problematic but does it take Congress to get some of this moving?

A: I'd say, so, it depends, so I'll go back to one of your first statements is, \$2.5 billion is not a lot and so you're going to have to...under the Transmission Facilitation Program, you're going to have to just pick a few projects to partner with. If you had more there and I've heard that from a number of industry folks that said, "Hey, we'd love it to be \$20, \$30, \$40 billion because then you can actually get some mass deployment going across the nation" so I'd say that's the Congress. The other piece, I don't know if it's necessarily Congress but it's

really working together on the Federal side but transmission siting has a federal piece but it's largely state-driven. States are the ones that site these transmission facilities and so, it's trying to partner with the states and having some money but I think Congress did give us some money through the Infrastructure Bill to help support states and analysis and it's kind of the technical analysis piece of my group that helps them if they need folks on the ground or need to hire some folks to do some studies or something like that that help them look at kind of their design and their thinking of how they're going to reach their goals, their energy goals; that is the other piece of it because a lot of...we understand that a lot of states' energy offices or things like that are thin and strapped and so the Federal government can come along side and help fund some of that.

Q: Michelle, if I was going to reach through our microphone and gently twist your arm and ask you of this \$80 billion dollars roughly speaking, what can you tell us is the percentage of new transmission versus upgrading existing transmission?

A: Ah, well the new is the \$2.5 billion. Everything else is, is really focused on upgrading or hardening or new technology and so, the majority of it as you said will go to those systems cause building a new line is great but if it can't; when it

interconnects and that supporting system is not also strong, it doesn't do you any good cause it doesn't get you the load.

Q: As we all know driving along the freeways, there are thousands miles of high-grade transmission lines out there now.

A: Right.

Q: What kind of new technology transformation on a grand scale, 30,000-foot level, does DOE envision across all of these thousands of miles..

A: Yeah.

Q: That will be transformative?

A: Yeah, I think there's several areas and I'm a little...this is my colleague and I'm a little out over my sky tips but I'll tell you high-level like you said. So, what we've understood and seen cause we have a whole...my colleagues have the whole research and development where they work with the labs and industry on this new technology of everything from new types of wire or cables and the cooling and so you can get more on them because it's a different approach. Flow control devices that help maximize the flows on your lines. More visibility on your lines. It can take a number of things. New towers—I mean it can be a number of things but it really is that getting the most out of your current existing infrastructure. Can you put more things on it where you can transmit a higher volume? And so, we've

actually seen there's a number of...of course, when you put money to an industry, it follows so is actually a number of great kind of cool technology if you want to say it that's coming up that is in that it's either gone through the testing is commercialized or is going through that testing cycle that can get a lot more out of your wires than they do today.

Q: So, the Bipartisan Infrastructure Law authorizes DOE to be an anchor customer on new transmission lines; this is for private investment. Talk a little bit about how that's going to work. Have you done this in the past and what might it look like in the future?

A: Yeah, this is a brand-new program and actually like you said, it has three components to it and so an eligible entity can come in and ask for either something that's normal out there, that's capacity contract and so DOE would just say, "We'll sign a commercial contract with you that if you build it and it's commercialized, we will take up to a certain amount of megawatts," so you don't have to...so basically, they can go to their bank and get financing, they can get going because they have someone on the other end plus some other customers that is guaranteeing them a basically a payment stream. But they can also come in and ask for a loan so a loan up to 50%. There is a loan mechanism or if it makes better sense, they can come and

ask for public/private partnership. And so that's actually where DOE comes alongside and builds with them; acts as the developer with them and so I'd say there are three different flavors of being an anchor tenant depending on the need of the developer and it's all across the board. I think it's the most popular one right now we've heard is the Capacity Contract because basically it just says DOE is there and we'll commit to it. Now, one of the things that is unique about this program is DOE is not in to own it forever. The whole goal is to sell it off as the capacity...the need grows. Basically, by the time you energize, you probably have the need because it takes such a long time. Our goal is as soon as we sign that contract to resell it as fast as possible and then recycle the money, so that's the beauty of this program is, we resell it off, replenish treasury, and then put that money towards the next project.

Q: So, we're sitting here as we speak near the end of the third quarter; excuse me, the first quarter of the calendar year.

A: Yep.

Q: When do you envision some of these Agreements being signed and actually money going out the door?

A: Yeah, so the first part is the Notice of Intent and so on a number of these programs, this summer if not early summer, you

should...folks should start seeing Federal Register Notice, basically it's saying this is how we set up the program; comment back because we want to make sure we're getting it right. Right after that is then we would solicit the first round and so of course, I can plan until the cows come home so I would love to see it this calendar year. That is a goal but we'll see what happens there.

Q: Okay, so when you sat in the Pacific Northwest at Bonneville, you saw the rapid development of wind resources in the Pacific Northwest and I understand DOE is going to be playing a role in building transmission capacity to wind farms that have gone up offshore.

A: Yeah.

Q: Talk a little bit about what funding you have for that and how you see that developing?

A: Sure, yeah, so that...you're right. Offshore wind for the U.S. is the newest kind of wave. There's basically three, maybe four key areas you see that on the East Coast, West Coast, the Gulf, and then possibly the Great Lakes. But right now, the East Coast does actually have a few offshore wind farms up and running, but the problem is, the goal and the Administration's goal is 30 gigawatts by 2030. That's a lot. I mean, we have a couple of gigawatts but not 30 and so one of the issues is to

bring that amount of power, variable power on to shore and to the consumer. Takes the infrastructure onsite...onshore so we are playing someone that is leading the stakeholder process in this role and working with the utilities, the states, the ISOs, RTOs, really doing that stakeholder convening to figure out what is the best approach to bring that amount of megawatts on to shore and disburse it. So, that is something that DOE has brought funding to. We'll do the studies, we'll do the convenings to help plan with the regions. It's going to do the same thing on the West Coast and the Gulf Shores and as long as money comes through on our regular program budgets but that is the goal. For the Infrastructure Bill itself, I don't think there is something...and I could be wrong here, dedicated to that but what we can do is those programs like the grid hardening and Transmission Facilitation Program and the Smart Grid; all those Bills can be used towards that but right now, it really is in planning and it's figuring out the best approach to bring that amount of energy from the ocean on to shore and making sure the existing grids or what we need to upgrade or redo in order to accommodate that.

Q: Does the Department of Energy feel that this capacity to help build transmission out to offshore wind farms will be as

transformative as 15-fold increase in wind generation? Is there a realist expectation that has to be accomplished?

A: Yeah, so there is and I think that's why we stood-up a Technical Review Committee in the Northeast on this as well as we're just getting ready to launch kind of a stakeholder engagement. You are right, this is going to take a transformative approach and so when I say transformative, it's different ways to build things, different ways to approach it, different thinking. There is a lot of interest in the Northeast right now and you have some great thinkers and some great folks from the state energy offices as well as the ISOs up there trying to figure out how to do this but what you will see of out of this planning is basically a plan that that the region up there, Northeast Region, can come around and then figure out to cost allocate it. It always comes down to money. How to build this stuff in order to accommodate it but I guess they actually have some offshore wind already blowing and coming onshore and so Bureau of Ocean Management already actually did a lease...ran an auction for leases a few weeks ago. Huge, huge interest. That was huge and so the interest is there. People are putting their money down and so right now, now we have to figure out how to get the transmission infrastructure in order to get it to those who need it.

Q: We talk about how this sliver of the billions for the new transmission; a key political factor is getting approval on where to locate it.

A: Yes.

Q: And we have highways, we have railroads rights-of-way. Is there an untapped resource for putting transmission along those corridors?

A: Yeah, so, yes and I'd say it's tapped in some areas; it depends on the region and but what we done is we've partner with the Department of Transportation who actually has...is running or is in the process of just about finishing those studies, those specific studies and they're starting by region that tell us where you can. What we're doing at the Office of Electricity is running the National Planning Study that's really focused on interconnections and with the regions and where it's needed. We will then take that study from the Department of Transportation, overlay it with the transmission needs and then work with developers and work with others to identify those areas that make a lot of sense where you co-locate. But yeah, co-location is a big, big thing for us.

Q: So, I don't know as we speak if you're in the Northwest or in DC...Northwest DC but the DOE has ramped up to hire a thousand additional employees.

A: Yep.

Q: Some of that is going to address departures that have happened over the last few years so I'm not sure how much of this is added workforce versus restored workforce but you have quite a mandate here in just the area of your control and purview. Do you have the people in place to ramp up an army to accomplish what we've been addressing?

A: So, I have a two-fold approach just so you know. I borrow heavily from the industry so I have right now at least half of my staff is from a couple of Power Marketing Administrations. We grab someone from NYSERDA is working half-time. We have a former ERCOT employee and so the goal right now is to at least get that knowledge and that brainpower that can hit the ground running to ramping these up and then I'm starting to hire and feather in behind them because I only have them for like two years or a year and a half and so I think that is one of the big challenges is finding those that understand the industry and how things work and then partnering with them. The other piece I would say is not only DOE but the National Labs are vital for us and having them be healthy as well and so one of the big needs I've heard from others is there's a shortage of transmission planners. That is not the cool, sexy job and there's just a shortage of them because there's a huge need and so can we

augment with some Lab staff? Can we augment...how do we grow that next generation which is what I will do with my staffing and so, I'm starting to bring in kind of that next generation that can grow into it given with the experts that are helping guide them.

Q: My last question is I'd like to focus on your CFO role here.

A: Okay.

Q: And take you back for a minute to the Obama Administration when they passed massive ARRA funds to try to help transform the Smart Grid and get it rolling. Years later we heard that a lot of that money went unspent; that's it's sitting there waiting to be spent and you've got \$80 billion dollars in your purse right now. You want to hold it up; you want to see what it looks like?

A: [Michelle laughs]; I wish I could.

Q: So, how does the Administration and the Biden Administration...some of the people were there when that happened..

A: Yeah.

Q: What lessons did you learn from untapped funds not getting spent back in a decade ago and how are you going to prevent that and use that last drop of this resource?

Q: Yeah, you make a vital point and one we actually bring up a lot internally so the goals of what was happening in the Obama Administration and now in this new Administration are very

different so back then, remember, it was to stimulate the economy, get things going, and so you had a lot of money but the problem is as you've mentioned here as well as, it takes a long time. It takes a lot of lead time to get transmission and so, the difference is right now is the focus is on get the money and you have some time to do that to the right areas. Stimulate the investments for a long-term payback, so that the differences. This is really looking at a long-term, wide path 2035 to decarbonize the electricity industry and then go on to the entire industry, the entire globe, so these are long-term goals. And so, fortunately, Congress has actually given us time and spending, forward spending enough to do that. And so, our goal is then to partner with those in the industry over time in order to get that going. And so, I think that's the main difference here as this Administration is looking at that long-term knows it's going to take some time. It's going to..you're going to prime the pump for five or 10 years and then see the payback 15-20 years later.

Q: So, if I invite you back to Grid Talk in 2035...

A: [Michelle laughs].

Q: You think you'll be able to tell us. "This is how we've been able to spend 80% to 90% of this money versus what happened with ARRA?"

A: I think so and I'd say because the industry's already there. This is something the industry's already been grappling and when you think about, remember, a lot of that money also goes to batteries or solar or a new generation type of approach, and so that has been going...states have been driving that. Between the state credits and state roles, a lot of the states are driving that and so when your states and your Federal are in concert with each other, the money goes faster and a lot...you have that push behind it. And so, I do believe. So, remember, Congress appropriated a number of that for five years and so, this is a longer term to try to work with industry to get it in the right places in order to make lasting impacts.

Q: Thank you, thank you, Michelle.

A: Thank you, Marty.

We've been talking to Michelle Manary, who's the Acting Deputy Assistant Secretary for the Energy Resilience Division in the Office of Electricity at DOE. Thank you and please send us your feedback or questions to GridTalk@NREL.gov and we encourage you to give the podcast a rating or review on your favorite podcast platform. For more information about the series or to subscribe, visit SmartGrid.gov.

END OF TAPE

