

MARTY ROSENBERG
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Grid Talk #214
DAVID OWENS and WAYNE STENSBY INTERVIEW

Q: Hi, Wayne.

A: Hello. It's good to hear your voice again.

Q: Hi, David.

A: Hey, Marty. How are you, sir?

Q: Great. We have with us today, David Owens, who, if memory serves me, is the vice chairman of the board of PREPA after 36 years as executive vice president of Edison Electric Institute, and Wayne Stensby is the president and CEO of LUMA Energy, which is engaged in rebuilding the transmission system on the island of Puerto Rico. We talked to both of you late last year and our podcast, our numbers went through the roof. You were both very popular; people have a great deal of interest of what you're attempting to accomplish down in Puerto Rico. And Wayne, I don't know if you remember but the very last thing you said to me in that podcast was, "You look forward to talking with us and updating us on your progress." So, here we are.

A: That's excellent, Marty, and I couldn't be happier that you've taken me up on the offer and I'll probably make the same offer at the end here. We have so much, so much, so much to do and it's super exciting and you know frankly, I can't believe

that it's been - that it was only December when we spoke so, looking forward to the update and talking a little bit about the next few months here in Puerto Rico.

Q: Great, so, when we last chatted, you said that you're in kind of a rubber year about to prepare to execute and begin a 15-year, \$20 billion dollar T&D rebuild. Has that period started and do I have that correct?

A: So yeah, so LUMA was awarded the contract here in Puerto Rico on June 22 of last year and we moved into this front-end transition period where we find ourselves today still. We are presently heading to a June service commencement date so in June of this year, which is frankly a little bit more than a month out, we will become responsible for the transmission and distribution customer service elements of PREPA, and we've undertaken along with PREPA, and along with the P3A here in Puerto Rico, a tremendous amount of work since we last caught up in December and happy to take you through a little bit of that but yes, we will enter into service commencement and then the contract runs for the 15-year duration and as part of the contract, we will be administering the deployment of the FEMA funding to rebuild what is desperately needed here in Puerto Rico in terms of a badly dilapidated and damaged both

transmission and distribution and kind of all the elements of technology in the power system.

Q: And David, when we last chatted you were about to secure the \$10.5 billion dollars in FEMA funds. From PREPA's standpoint, is everything greenlighted and ready to go?

A: Yes, in fact as part of that effort, we had to file a 10-year plan with FEMA. That plan has been accepted. Wayne's team has been intimately involved in that effort. We interact extremely well with the FEMA, with the Department of Energy, with other agencies who have a keen interest in the work that Wayne is going to be doing to rebuild the grid so I think we're on target. I also believe that the plan has been very well received and obviously changes will take place as Wayne and his team begin to rebuild the electric system.

Q: So, David when we talked back at the end of the year, you said that the plan was to put 3,600 megawatts of solar up by 2025 and 1,300 megawatts of battery storage and my understanding is the LUMA side doesn't concern itself with generation so how are those plans going?

A: So, we did issue an RFP about a month and a half ago for 1,000 megawatts of renewables and 500 megawatts of energy storage and will continue to issue RFPs up until 2025. To achieve the goal, it's really 3,750 megawatts of renewables and

1,500 megawatts of battery backup. Wayne and his team will have an intimate part of that because if you run the grid, you've got to integrate those resources into the grid so he will have some responsibility for the integration of those renewable PPOAs. There will be contracts with renewable developers to implement that goal. We have an overall goal in Puerto Rico of trying to have by 2025, 40% of our power supply be vested in renewable technologies. Right now, roughly 3½% of our power supply is renewables so we're going to have an aggressive effort going forward. We'll be shutting down our coal plant that we have with AES, phasing out some of our baseload oil plants and moving increasingly towards renewable technologies. And again, LUMA will have an intimate role in integrating these technologies into the grid that Wayne will be modernizing.

Q: Wayne, you're early in your efforts here but the public has been frustrated by the outages going back to Maria and maybe even before that and we're about to start hurricane season anew. What's your forecast on how well the system will be able to handle any major storms and should there be a noticeable improvement already or is it too early?

A: I think it's a great question, Marty and it's a question that I addressed quite often in talking to our future customers as well as well as all the many stakeholders here and I think in

a very sort of tactical level as we get ready for June, we've been busy finalizing some of our really, our customer service center and our customer approach and so yes, I do think customers here in Puerto Rico will feel a difference and an improvement in the way that they're presented with information and in the way that they're able to get more current information. We're going to rollout an updated website. We're going to rollout something we're calling MiLUMA an app for people on their phone. I was just

last week in our new customer call center and we're just finishing some of the technology. We're beginning training of people there on or about the tenth of May and so our - we have a number of things we're going to focus on right out of the gate and certainly one is on customer and customer communication. I think the sort of the related question that you had is, will people notice an improvement in the reliability of the system and although we are able to address and we will address our customer response and our communication, I am also quite practical in the way I view the reliability of the system. The infrastructure requires substantial remediation and although the teams at PREPA have done some great work in the last few years, there is a tremendous amount more to go and so I would describe the system as still a little bit fragile and so yes, I think for

the next two or three years before some of that large FEMA investment is able to make a meaningful difference, we're still going to see relatively high levels of outages on the system. But I do think with improved customer response and making some early wins I think customers in Puerto Rico will be able to see a difference.

Q: We both talked - actually, the three of us talked about the new technology that's going to be deployed on the grid and to what extent you feel utilities in the Gulf States-Texas, Florida, and the South-Georgia, areas prone to hurricane disruptions, might view Puerto Rico as a testbed of things that they may want to try. Can you talk - both talk a little bit about that?

A: *(David responds)* So, maybe I'll start. I think again, you're asking very good questions. So first, if I look at what's happening in the mainland, most utilities as you know are modernizing their grids. That's a codeword. It actually means that what they're doing is using state-of-the-art technologies recognizing the grid is becoming increasingly digitized. Recognizing as well that customers have Smart Meters with AMI which provides a digital link between the customer and the utility. There are other customer interfaces through enhanced communication infrastructure. Companies have advanced

distribution management systems and essentially the whole idea since we're also migrating to a system in Puerto Rico and throughout the mainland where there's an increasing movement towards distributed resources which includes not just rooftop solar and other renewable technologies including combined heat and power. In that regard the utility who is the Distribution System Operator, which is LUMA will need some visibility, control and coordination of what the customer's doing. You need technology to be able to see what's occurring on the grid. So specifically, if we're talking about rooftop solar facilities, you need a Smart Inverter. You need to be able to understand what are the electric conditions on your system at all times because safety and reliability, are key elements. You want to make sure, too for safety reasons, that the customer does not have a power supply source energized back feeding the grid, that you're unaware of. So, you have a broad array of new technologies that are evolving that provides us a real-time focus of the system to see what's occurring on the grid. So, we can know at all times what the status of the system. I think that's very, very critical. So that's occurring all in the mainland. I'm sure that those technologies as well will be incorporated in Puerto Rico. While we have some Smart Meters, we need Smart Meters that have digital interface; that

communication link so that the utility can see at all times what the customer's doing and the customer at the same time can have real-time communication with the utility. Those are some of the technologies that are being considered.

Q: Thank you, David. So, Wayne, LUMA Energy will be customer-facing entity in Puerto Rico at least for the next 15 years. What are the challenges of communicating this brave new world that David just outlined to us to the customer and how are you meeting those challenges right now and in the next few years?

A: Yeah, again, I think that's a very powerful question and as I was listening to David, I agree with everything he said and another way to frame it is the technology is moving - I mean I view technology as an enabler and LUMA's role is really is, is a facilitator in many ways but technology is moving to the edge, right, I think would be another way to frame it is, is there's more technology that will go in that meter than a utility had in an entire substation control system a decade ago or will sit at that automated distribution switch. Even the whole topic of Advanced Distribution Management Systems-ADMS-these evolving as people are pushing these technologies further and further out and into customers, so I think LUMA's opportunity in and the approach we've been taking is to really, to really engage with customers in using many channels. We recognize we have customers

from many; clearly, we have residential customers; clearly, we have commercial customers; more industrial customers. We have customers with different interests and as a customer-centric organization, we're really spending time talking with and listening to customers and understanding. A traditional approach for a utility was believing that we, as a utility, understood what a customer needed to know and we would tell them. What customers will, I hope, I believe my aspiration in LUMA is, we're spending a lot more time listening to customers and talking to customers and probably having a few less engineers and a few different types of people interact and work with customers so that we can provide them with the information they really are interested in, in the format and in the media and in the style they want to consume it. Customers here in Puerto Rico shouldn't have to understand the definition of SAIDI and SAIFI or ADMS or anything else, right? They simply want to know what's interesting to them and as the electricity system gets more and more reliable here, frankly, there should be other things that they're interested in or could be interested in, so, we're doing things to change the way we communicate information on the bill. We want to move into an environment where we're helping them with energy efficiency or helping them consider other aspects of electricity rather than the basic: Is my power out or is my

power not out or when will it be restored? We do recognize though; however, Marty, that we have a long ways to go here and a lot of what LUMA will do in the next years is very foundational, right? And so, we need to get ourselves back to some of those things that in the mainland that in the U.S. and other places people would take for granted, such as good outage management tools and notifying customers that we do understand your power's out and our teams are working on it and we would expect a restoration time in four hours or six hours or whatever that may be so, we're doing those basic foundational things but we are really working hard to take a different approach as we connect and listen to customers. I think technology though these days, offers almost an infinite way - if you think of social media, if you think of all of the ways in which you could consume information - if you think of listeners to this podcast, those are all opportunities that we in utilities really didn't have a decade ago so I find that really exciting.

Q: David, PREPA has had a lot of baggage including bankruptcy. How are you dealing with those cultural issues and do you think they're in the past or are they still present problems that you have to wrestle with?

A: Well, as you know we're still before the courts with respect to the bankruptcy. Any transformation is challenging if

you're going to make a meaningful difference. So, one large element that is concerning and we are addressing it are the transition of employees. We had years ago over 10,000 employees. We currently have 5,400 employees. For the transformation that we're in with PREPA, obviously all those employees may not be needed. Many employees will; others will not so some will decide to retire and others will not, so the people issue is huge and weighs on my heart. It's something that we have to address. We knew this if we're going to make the system much more reliable, much more resilient, cleaner, affordable, and more customer-centric, you've got to make herculean changes and sometimes those changes at the frontend are very painful because they involve people and so to me, that's one of our stressful and more difficult challenges. You know, LUMA has done an outstanding job reaching out giving current, many current PREPA employees an opportunity to join in this transformation of the utility but not everybody will go to LUMA. So, we've got to work with our employees and make sure that their interests are taken into account that they can get jobs within the government or other places on the island, that's very important. We've got to make sure that our retirees get a retirement check so those are the people issues and they are substantial issues when you're seeking to make the kind of major transformation that we're

making in Puerto Rico. PREPA, the organization again will have fewer people and that's appropriate and we will be evolving to a structure that will have a Holdco, a Gridco, a Genco and a Servco. The Servco and the Gridco is LUMA. The Genco will involve our legacy generation assets which are currently out for bid. All our legacy plants are very old so we're looking for an OMA (operation and maintenance agreements) much like the one we have with LUMA. not for 15 years; perhaps for 10 years for our legacy generation facilities. Then you'll create a Genco. So obviously that means that staff that we have that did those functions that the operator of the generation facilities may bring other talents and we have to acknowledge and recognize that. Our goal is to create a cleaner, more reliable, more resilient, more affordable, and more customer-centric electric system. I was very pleased that Wayne took the time to go into detail about the importance of having a strong relationship with the customer. So, that's kind of where we are. We're transforming the structure of PREPA to be coincident with the things that LUMA's got to do, with the things that the Genco's got to do and with what we've got to do with respect to the renewables, the PPOAs that comprise purchase power arrangements that have to evolve if we're going to achieve our clean energy goals of 40% renewables by 2025. So, those are the challenges

that the board is currently dealing with and those challenges that I find are very, very difficult but necessary to solve.

Q: Wayne, LUMA Energy was formed by Quanta Services, Canadian Utilities, and Innovative Energy Management. To what extent will you be tapping in to the intellectual capital in those companies and bringing them to Puerto Rico to train a new generation of workforce? David talked about transition to a new workforce. How are you going to master that and execute that in the coming years?

A: Yeah, and I think I'd like to just pick up for a quick moment on one of David's points which is the PREPA employees today and I - you know, these are very talented, very dedicated people and just like David, I think we recognize that transformations like this are difficult and so I have a lot of empathy for PREPA employees and as David said, we've been working hard to encourage as many PREPA employees as possible to join LUMA because at the end of the day, we will benefit from their experience and their knowledge but beyond that, we will offer a long career and if you consider the amount of Federal funding, if you consider the amount of technology we'll deploy, if you'll consider the great; I can't think of a more exciting place to spend the next 15 years or 15 years plus, so we've got lots of great job. We are, as I mentioned the last time we

spoke, one of the key principles for us is putting health and safety first as we put our people and our customers first, and so, you asked what are we bringing from the parent companies that formed LUMA and of course, companies are about people, right? They're about values and I think that's one of the great things is both Quanta and ATCO have very similar values and that's what enabled those parent companies to join with IEM and form LUMA so we just opened; sorry, broke ground in the last I guess three weeks now, a LUMA College for Technical Training. We're developing a college here in Canóvanas that will help to train the next generation of line workers so, very, very important that we get solid training in the hands of our employees and especially on the health and safety side, so important on the health and safety side. We're also tapping into Quanta's expertise in large-scale construction, large-scale storm response, the way that Quanta manages fleet and large-scale fleet. They have a technology group. If I sort of jump across to ATCO; ATCO's approach for customers and putting customers at the center of the discussion, approach with regulators and building a collaborative relationship with regulators, again, we've had the opportunity to have a decade of large-scale capital deployment and as I say to many people, it's actually, it's actually very difficult to do a good job of

deploying notionally, a billion dollars of CAPEX a year. And then IEM as we're getting ourselves kind of prepared here for our first storm season, IEM's expertise in both assisting with that emergency response planning but also their deep expertise in working with FEMA and deploying Federal funds and so, all of those elements are, that intellectual horsepower, that human capital, all of that is being brought into LUMA as we recruit our own thousands of workforce here and get ourselves stood up. Without those parent company resources and those parent company attributes; we wouldn't have been able to get through this 10-month period as quickly and as effectively as we were. And as time rolls on, as LUMA kind of rolls on here in Puerto Rico, we will still have those connections back in into the parents but of course, LUMA will become a little more self-sufficient.

Q: So, my concluding question to you both is as we sit here at the start of the 2021 hurricane season and you both have been putting in quite a bit of work, are you optimistic? Is it going better than you anticipated? Is it harder than you anticipated? What has been your takeaway as you reflect on where you stand right now? And we'll start with you, Wayne.

A: I mean, it's been a challenging year, Marty. I'm an optimist by nature. If you think of, I don't know, for example, COVID and the pandemic has had such a significant impact on the

globe, never mind little old us here in Puerto Rico. So, yes, we've been dealt a few challenges but that's okay. We understood we wouldn't understand; we wouldn't know everything that was in front of us. We built a plan that had some flexibility. Its kind of tested our agility. As we get ready for June, we've taken that same approach. We have our plans, then we have our backup plans, and we have our backup plans and I think it's very important as we move into the summer here in Puerto Rico, I'm confident we've done our work and we're ready to get started. We do; however, recognize it is just the start and we can make some of the differences I spoke about to customers here in Puerto Rico and we look forward to getting started and if something goes bump in the night which it may well, we have some plans in place and we'll rollout those plans and we'll continue to move forward.

Q: Great, and David, are you still convinced that the best retirement plan for a former utility executive is to roll-up their sleeves and plunge into an issue like rebuilding the grid in Puerto Rico?

A: You know, Marty, this is very exciting. I mean, I love taking on challenges and this is a huge challenge and I like the relationship that is evolving with LUMA and the customers and PREPA employees and so forth. So, I'm excited to see what we're

seeking to do and looking into the future 10 years hence, we'll look back and we'll smile and we'll say, they've created an electric system that is the envy of all the Caribbean Islands, and that's really what the goal is. They brought jobs back to Puerto Rico. The utility now is out of bankruptcy. The government is able to access capital markets. There's confidence that system is reliable, is very resilient and can withstand 150-mile-per-hour hurricane winds. If a portion of the system is affected, the entire system does not go down because they've got resilience through microgrids and they've got a 230-kV hub that surrounds the entire island, so I'm very optimistic. As we prepare for the hurricane season as Wayne said, he's done very good planning and preparation. You can never over-plan and we've tried to, as well, make improvements in the system. We accelerated substantially, vegetation management that is always an issue. It's very difficult on the island because the vegetation grows so quickly and in our 230-kV Ties in hard-to-get-to areas so we have a very aggressive vegetation management program. That was one thing that I stressed when I got on the board. We have more than doubled the money that we are spending in this area. I also stressed spare-parts inventory. I stressed a maintenance schedule. I still stress it for all of our major facilities are up and running as we're entering the hurricane

season, and I have tremendous confidence in the expertise of LUMA. They've done this before. They know what they're doing and we're going to be great partners in my view so I'm very optimistic. I'm not just cautiously optimistic; I'm very optimistic that we will respond to severe weather events better than what we've done in the past. I can't predict whether they'll be outages and so forth but I will say, we are getting better prepared than we've ever been.

Q: Thank you, David. And, thank you, Wayne. Thanks to our guests, David Owens of PREPA. He's vice chair of the board, and Wayne Stensby. He's the president and CEO of LUMA Energy. We've been talking about development of the grid in Puerto Rico and it's implications for the broader utility industry. You can send us feedback or questions at GridTalk@NREL.gov and we encourage you to give the podcast a rating or review on your favorite podcast platform. For more information about or to subscribe, please visit SmartGrid.gov.

END OF TAPE