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CleanLaw 73

Current Challenges and Opportunities for Electric Transmission, with Ari Peskoe and Hannah Oakes

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Hannah Oakes: Welcome to CleanLaw, from the Environmental and Energy Law Program at Harvard Law School. I'm Hannah Oakes, a staff attorney with the EELP, and in this episode I'm joined by Ari Peskoe, director of our Electricity Law Initiative, to discuss current issues in electricity transmission and regulatory law.

Ari, thank you for joining us for this episode of Cleanlaw.

Ari Peskoe: Sure. Glad to be here.

Hannah: Now, you're no stranger to this podcast, but usually you're the one interviewing others, so we are excited to hear from you today and talk about electric transmission issues.

Ari: It's my favorite topic-

Hannah: (laughs)

Ari: ... so let's do it.

Hannah: Now, everyone knows how great renewables are, but few people understand that public utility regulation is key to unlocking their potential. And when I tell people I practice public utility law, I often get questions like, "What is that? That seems like a pretty arcane or mundane area of the law. Why are electric companies even regulated?" So, first, I'm hoping you can tell us, how did you get interested in electric transmission work, specifically in electricity law?

Ari: Well, let me say, public utility law is exciting. It's not often associated with cutting-edge legal thinking, but it was a hundred years ago and we kinda lost the thread on things, so we're trying to make it relevant again for students here. You know, the premise of utility law is that there are certain companies that are monopolists for public policy reasons, and it is important, because they are monopolists, for there to be comprehensive regulation of the prices that they charge and the terms of service that they provide.

So, electric transmission, which I guess we should take a step back and kind of define what it is. It's the, uh, interstate power lines, high-energy power lines. And, it traditionally has been considered to be one of these monopoly

industries, and so it's been regulated in different ways by state utility regulators and by the federal energy regulatory commission. So, it's part of this public utility puzzle. It's a critical piece of it because transmission is the strategic heart of an electric power system. Whoever controls transmission gets to determine who generates power, how much power they generate, when they generate that power, the types of resources that can be connected to the system. So, control over transmission is really control over the industry. And I think I didn't realize that when I've been, you know, working in this space for several years. And, and once I did recognize that through a lot of research that I had done, then I became really interested in diving in in what is the role of regulation in transmission development?

Hannah: And, what do you do as director of the Harvard Law School Electricity Law Initiative?

Ari: So, for this space, and really for all the work we do, our goal is to ensure that public utility laws, which date back a century, are not an obstacle for the clean energy transition. So, what we want to do is understand these century-old laws, in the case of, of state laws, or almost century-old laws in the case of the Federal Power Act that governs the utilities interstate operations and sales, is to find opportunities in the law that will facilitate clean energy deployment, rather than obstruct it. So, you know, what we do is put out papers, file comments at FERC, file briefs in federal court that support the legal arguments being made by the clean industry and clean energy advocates.

Hannah: And so, you mentioned earlier that these companies are heavily regulated, can you talk a little bit about the utilities incentives and how they have kind of competing incentives sometimes between their goal to provide electric service to rate payers and also their fiduciary duty to their shareholders?

Ari: Yeah. So, I think the primary mission of public utility regulation is to align utility incentives with the public interest, and to use those incentives to improve the industry's performance for the benefit of consumers. The model of utility rate making that has been in place for more than a century is to basically set rates at an amount that reimburses utilities for all of their operating expenses, and also provides them with a profit for their capital investments. So, utilities profit by building physical assets, by building stuff. So, that is a clear incentive for them to build things. And that made sense a hundred years ago when we were trying to electrify the country and we wanted to incentivize infrastructure expansion.

But, that has some potential downsides these days. It may lead utilities to neglect certain cost-saving technologies. So, in the transmission space these days, there's a set of technologies called grid-enhancing technologies, which are low-cost solutions that can effectively increase the capacity of existing infrastructure. And, the utility industry has pushed back on the deployment of these technologies, in part because they don't profit from them. And in fact,

they lose out on potential profitable opportunities to build new infrastructure. And there are certain operational practices similarly in the transmission space that can potentially obviate the need or delay the need for capital expenses, and that the utilities resist those as well.

So, the job of regulators is to impose these, despite utility objections where they make sense. It's a difficult balance to find because you have the classic information assymetry problem, where the utilities control a lot of the data and will make these arguments that these technologies are not going to be beneficial for reliability. That's always their... the weapon that they deploy. And so, the goal of regulators is to try to see through that fog and to try to mandate the use of these cost-saving technologies where they make sense.

Hannah: And you said that the utilities have these opportunities to make arguments, and there's an information disparity. Can you talk about the proceedings where consumers, or rate payers, or other advocates can push back and gather information and ensure the best interest of their constituents?

Ari: Yeah. So, the classic utility proceeding is a rate case, and those happen at the state level for rates that consumers pay, and they happen at the federal level at FERC for transmission rates that are paid potentially by generators connected to the system or to wholesale customers, like municipal and cooperative utilities that pay the investor-owned utilities transmission rates.

And, there's different types of rate cases. At the state level, there's often opportunities to intervene in these proceedings to ask utilities questions through discovery processes, although many states have imposed limits on the types of groups that are allowed to participate at that level. But, it's hard to get information from the utility because the utility, of course, has an incentive to guard any information that might reflect negatively on it. And of course, the utility rate case starts with the utility's own accounting records, so already the utility has an advantage because the whole proceeding is based around the utility's own records. And so to the extent you're looking for any information that contradicts the utility's own records and you're asking the utility for that information, it's obviously going to resist.

There's another problem at the federal level. A lot of transmission rate cases are conducted through what's called a formula rate, where FERC has pre-approved the methodology that the utilities use to collect their money. And every year the utility simply files an update with the specific inputs into the formula that FERC has pre-approved. And here, it's even more challenging to get information from the utility and to file meaningful challenges. So, these sorts of successful challenges at FERC on transmission rates are almost non-existent. So, it's really at the federal level and in particular transmission rates are these days just a pass-through cost, where the utility tells the regulator how much it's going to charge, and the regulator basically rubber stamps it and authorizes whatever expenses the utility has incurred.

Hannah: Okay. So, what I think I hear you say is that we want these investments in transmission to build out the grid, but we don't want too many investments. And so, what is the right balance? And how do we impose that kind of scrutiny to understand and make sure utilities are investing in the right type of assets?

Ari: Yeah. That's exactly right. We want the right types of investments. And in particular, what we want are investments that are going to improve the industry's performance. How do you improve industry performance? Well, you know, you can do that, for example, facilitating the entry of new generation, so these days that's primarily wind, solar, storage, that are waiting in these interconnection queues that can actually reduce cost for consumers. You improve industry performance by enhancing reliability of the system, the resilience of the system, the ability of power to move from one region to the next. Which, every time there's a major weather event, we always see the importance of these inter-regional power transfers. And so, you know, you improve industry performance by unlocking some of these low-cost technologies that can enhance the performance of the existing transmission system.

So, these are the sorts of investments that we want utilities to make, but they have not been making because the incentives all point towards just rebuilding last century's transmission network. And that's due, in part, to the very lax oversight around just replacing existing assets. There's often very little scrutiny both at the state level and at the FERC level for these wreck and rebuild projects. So, again, the utilities are just following the incentives. They make the same amount of money if they just wreck and rebuild an existing small-scale line, which is very easy to do, then they would make if they tried to build some big, new, inter-regional project, which can be a much more challenging project. But, the way rates are set is they make the same amount of profit on those two types of investments. So, naturally, at least to a certain extent, they're going to gravitate towards those easier investments.

Hannah: Okay. So, working within this framework, and you said it's a century-old framework regulating these utilities. It sounds like we're asking these utilities to do a lot more than they did historically. We want the grid to transmit electricity both ways, to integrate distributed energy resources, and we want to make sure that the transmission lines are connecting to other resource-rich areas that might be high in wind capacity. Can you talk about the goals of electric transmission and the benefits that inter-regional or regional transmission can provide, and how those fit into this framework?

Ari: Yeah. So, I think the optimal solution here is actually for utilities to do a lot less. So, take transmission development for example. One of the big policy debates right now is whether the FERC rules should enable competition in transmission development. So, I think regulation should be providing more opportunities for non-utilities to come in, participate in the development process, in the planning process, and actually build these projects. Utilities,

ideally... any utility will say that the two main goals of the utility are one, to keep the lights on, and two, to maintain low customer rates, to maintain affordability. If those two things are true, then we ought to keep the utilities focused on reliability and get them out of infrastructure development.

So, let's let other companies come in who actually are able, you know, this is, like, demonstrably true, to build these transmission projects at a lower cost, so that's better for rate payers. Let's keep the utilities out of the infrastructure development business and have them just focus on reliability issues.

But, to get back to the big question that you're asking, which is we're undergoing this rapid change at the local level. There's all these distributed energy resources that can connect at the household level, whether it's, like, an electric vehicle, or a rooftop solar instillation, or a battery in your basement, or an electric hot water heater. There's a lot going on in that space to try to get all these devices to talk to each other and to have them be deployed in a economically rational coherent framework. And that's its own set of challenges that ought to be playing out at the state level, but unfortunately what we've seen from the industry is resistance to really engaging seriously in those discussions and just trying to push back on their deployment. We're seeing some interesting things happening now at FERC on these issues, through what they call Order 2222, which is trying to get these small-scale resources to participate in the interstate power market. So that's probably a topic for a whole 'nother podcast.

On the transmission front, if you look at the history of transmission development, it's just continually expanding the scope of our transmission network. So, we started building transmission in this country at the beginning of the 20th century, and it was utilities connecting to their neighbors. And then, you know, ultimately it expanded out from there, and now we have these large-scale regional networks, which everybody agrees is more reliable and more efficient than just utilities operating as islands or as small-scale, let's say, holding company families, or something like that. Greater connectivity undeniably enhances resilience, reliability, efficiency. And so, we have to take that now to the next level and go up to these inter-regional connections. How do we connect across what are called these seams where there just isn't enough transfer capacity to meet some of these consumer demand during some of these extreme scenarios that I think unfortunately are going to become increasingly likely?

Hannah: And FERC generally regulates or requires certain actions from the utilities when it comes to regional transmission planning. For example, they issued FERC Order 1000 in 2011, that required some type of planning and for utilities to draft tariffs to implement that kind of planning. Can you talk about that and where that stands today?

Ari: Yeah. So, FERC Order 1000 for the first time, required utilities to participate in regional planning processes. Many utilities were already doing this through the regional transmission organizations, or RTOs, like PJM and ISO New England, that had been convening these processes, you know, for more than a decade at that point. FERC made a few changes to those regional processes in Order 1000. Wanted the utilities to plan for public policy needs. That was, at the time, particularly state level policies, like renewable portfolio standards that required utilities to procure renewable energy. So, wanted to make sure that these regional transmission processes were geared towards those policy-based needs, as opposed to just the traditional economic and reliability planning.

And the second big change was that it required these planning processes to allow non-utility developers to participate, and ultimately to build the projects that were approved as part of the regional plan. So, that was a fundamental change, really opening up what were these really regional utility cartels that had collectively doled out transmission projects exclusively to their members. And the goal was really to lower consumer costs and also to have a competition of ideas that the utility industry does not have a monopoly on what the best transmission projects should be. So, that was the vision, was to really open up the process to competition and make sure that the planning was accounting for these public policy needs.

And, I think there's pretty widespread agreement that the regional planning processes have not lived up to these two expectations. I think on the first front, I think there just hasn't been enough involvement from the states in certain regions that want to be involved. Like here in New England, state regulators wanted to weigh in more on the public policy projects, and it just didn't shake out that way. On the competition front, I think there just hasn't been as many large-scale regional projects that FERC had hoped. I think that's, in part, due to utility resistance, avoiding the regional development. And one way they do that is, as we've talked about, by over-investing in these wreck and rebuild, or small-scale local projects, through processes that they control that are not subject to any RTO involvement. So again, competition reduces the utility incentive to participate fully in regional planning. So, their incentives point them to retreat to their local areas, where they can control what happens.

And the final piece of this puzzle is that outside of the RTOs, which is basically most of the western half of the country as well as the southeast, we really haven't seen any regionally planned projects. It's just the utilities just continue to do what they want.

Hannah: And so, just to piece all of these thoughts together, the utility undertakes this regional transmission planning process under FERC's direction, and these investments then go into their rates through formula rates. And, there's only one opportunity per year to scrutinize those costs. And it sounds like the utility is mainly avoiding that scrutiny by just investing in local projects, just wreck and rebuild, as you mentioned.

So, in the last few years, FERC has paid particular attention to these issues and they've opened a few proceedings. You mentioned one earlier. Um, it's known as the FERC Transmission Notice of Proposed Rulemaking. It's docket number RM21-17. And in that docket, they're proposing something called a right of first refusal, and this has received a lot of pushback. And I'm wondering if you could talk about this and also your counterproposal to this proposal?

Ari: Yeah. So, the right of first refusal is anti-competitive provisions in these regional planning tariffs, that basically dole out all projects to the utility. So, if a regional project is within the utility's local retail monopoly footprint, then it gets to automatically build that project. And so, that really crowds out obviously all the non-utility developers and turns the planning process, you know, really explicitly back to the utility's control. And so, again, this is going to raise cost, just by definition, and it's also going to lead to the project that the utilities want, and that doesn't necessarily align with the best projects in terms of lower energy costs, new, uh, generators being able to come online, enhanced resilience, reliability. Doesn't necessarily align with the public interest.

So, this is one of the issues that's, in part, in this RM21-17 proceeding. The larger issue in this proceeding is FERC's effort to push utilities to plan more for the long-term. In the Order 1000 Regional Planning Processes, what really happened is that for the most part utilities engage in short-term planning to meet the reliability standards. And that's all very important, but what the planning processes have been missing out are the long-term changes in the power sector, such as the increased deployment of wind, solar, and batteries, as well as the needs potentially being driven long-term by electric vehicles, other electrification initiatives, as well as extreme weather events. And the industry's just failed to plan for all this.

So, you know, getting back to the ROFR, the right of first refusal, you know, I think what FERC ought to be doing is figuring out how to make competition work, rather than giving a handout to the utility industry. So, FERC has taken comments. Uh, the comment period closed in September. There were four rounds of comments. There's a lot that's been written on this. Uh, FERC has a lot to consider. My hope is that it doesn't hand the keys back to the utility industry, but tries to figure out how to make competition viable.

Hannah: And in your comments, you propose a prudency screen. And then, in your supplemental comments you say that FERC should provide a conditional ROFR, only after a competitive process. Can you talk about this and your theory there?

Ari: Yeah. So, one thing that FERC proposed was instead of just completely giving the utilities ROFR, what they would do is allow a utility to partner with another developer of the utility's choosing, and then that joint venture would get the right of first refusal. In my comment, what I said was that what the utility industry is going to do is simply partner with each other. So, you'll have one investor-owned utility partnering with another investor-owned utility in its region

because that's historically what they did, and that's what they will continue to do, I think, in virtually every case. So, that's not... There's no competition in that. There's no real competition for who's going to partner with the incumbent. I think the utilities will just all do this through just side deals with each other.

You know, one thing that I put forward is that if the goal here is essentially to buy off the utility industry as some political maneuver, then what I suggested is that let's just make it explicit. Let's have competition. Let's let the best project win. And the local utility basically gets a right at a cut of that project. So, they get to own, let's say, 15% of whatever the project is, but they have to use whatever terms and conditions won the competitive process. So that means whatever, you know, cost caps the developer, winning developer, agreed to, whatever return on investment, the return on equity the developer agreed to, the utility would have to abide by all of those terms, but let's just give them a cut. And what I analogize to is a series of proceedings that have either recently completed at FERC or currently ongoing about utility proposals to profit from each new generator that connects to the system. So, when a new generator wants to connect to the system, sometimes the existing system has to be upgraded to accommodate the new generator. And, the way it typically works is that the generator gets to finance that construction cost. Well, the utilities have come in recently and said, "No, we want to be able to finance and profit off of those upgrades ourselves," that's going to raise costs for consumers, and those costs are going to flow to the utilities' profits. And really, what the utilities are seeking in these proceedings is just a piece of the action. So, I was analogizing to these generator interconnection processes and saying, "Look, the utilities want a piece of the action. FERC can give it to them, but let's make sure competition is the key framework for moving transmission development forward." So, that was one piece of a comment that I filed.

The other thing you mentioned was the prudence review. And prudence review is a age-old key tool in the regulatory toolbox, where regulators only allow prudently incurred utility costs to flow through to consumer rates. And this is supposed to prevent wasteful utility spending and supposed to provide some scrutiny to what the utility is doing. And what I've suggested is that where there is no competition and where the utility is planning the project itself, there's no RTO involved, and this would, you know, particularly apply to these local projects that utilities build themselves, FERC ought to have some policy in place to scrutinize the prudency of those investments. And the goal here would be to bring enhanced scrutiny to these planning processes that the utilities run, and hopefully be part of a package of carrots and sticks that can drive more investment into the regional planning processes that are run by RTOs or some other non-utility entity.

Hannah: So, this really aligns with what you were saying earlier, that in the counterintuitive idea that sometimes we need more regulation to enhance competition. So, FERC has initiated a number of proceedings, but one other that I want to talk about is their cost containment proceeding. You were

recently invited to serve as a panelist at the FERC Technical Conference, discussing these issues. And, I find it really interesting because a narrative that I often see in commission proceedings and in the news is that the goals of de-carbonization and low electricity costs are at odds. But you seem to bridge that gap and encourage regulations that enable clean energy at reasonable rates. Do you think these goals are incompatible? Or, whether there's a path forward in which we can reduce emissions at a reasonable cost?

Ari: Yeah. This comes up a lot in transmission in particular, is that if we want to build more transmission, in part for clean energy, isn't that going to raise consumer costs? And one response here is that by building more transmission, we're going to enable more low-cost generation to come online. And so, they'll be, at least to a certain extent, some balancing out here of the costs, that we'll have lower costs for generation, particularly in these days of higher natural gas prices. And, we will end up paying more for transmission.

But again, I think the really key issue, though, is that we want to make sure we have the right investments. Investments that are going to drive generation costs lower and that are going to enhance reliability, and particularly that are going to lower power costs during these extreme weather events, when we see these massive price spikes that I think are becoming, you know, increasingly frequent. But there is this danger that as we undergo this transition, which is bigger than just the clean energy transition, there is this danger that there's going to be some backlash if costs go up. So, that is, I think, one of the many reasons why we need to ensure that we have good regulatory processes in place that are scrutinizing these transmission investments, that are using competition where feasible to bring down costs and make sure we're developing the right projects.

And then, you know, just using good old-fashioned utility regulation of looking at the actual accounting records of the utilities, looking at the actual project proposals, including these wreck and rebuild projects. Having potentially some independent third party. This came up a lot at this... in this proceeding that you mentioned, you know, what some folks have called an independent transmission monitor to provide analysis of what the utilities are doing. So, we just... we need some oversight on transmission development, to make sure that we're making the right investments and it's efficient for consumers.

Hannah: When we're talking about these investments and the costs of all the investments, I think one of the other pieces to this puzzle is the recently passed legislation. So, the Bipartisan Infrastructure Bill was passed recently, and the Inflation Reduction Act was passed earlier this year, which have some incentives through tax breaks and funding for this type of work. Can you talk about what was in those packages and how that can help transmission?

Ari: Yeah. I think overall, you know, there's a lot in the IRA for generation technologies, but not a whole lot for transmission. And in the infrastructure bill

that passed in 2021, there were some... couple of things for transmission that I guess are worth highlighting. One, is that FERC actually has new authority now to site transmission on a very limited basis. But still, it's new authority that it hasn't used yet. Right now, virtually all transmission needs permission from state regulators. That's a whole 'nother area, I guess for a separate podcast, on transmission siting. But FERC now has this new authority, and we'll see how it uses it, where, a state declines to site a particular line, FERC has some limited authority in cooperation with DOE to basically overturn a state decision. So that, that could be significant down the line. We'll see.

There's also some funding for transmission that right now DOE is in the process of figuring out how to deploy. There's $2.5 billion for what's called the Transmission Facilitation Fund. I don't think I'm getting that exactly right, but something like that. And DOE has, has sought comment on the financial models it should use to deploy that two and a half billion dollars. And, and that's great, but we're talking about over the next decade plus hundreds of billions of dollars needed. Right now, the industry already spends, you know, more than $20 billion a year on transmission, to two and a half billion is a relatively small amount of money. And then, there's some, you know, I think five billion (*post-production correction–it's more like $10 billion*) for certain resilience investments, that can be either transmission or at the local distribution level. So again, that's, you know, a nice pot of money, but isn't going to, you know, move the needle in a significant way.

Hannah: So, this money will flow into the transmission planning process that we discussed earlier and be scrutinized by rate payers and through these proceedings. Are there any other levers that can be pulled or any other efforts that should be advanced in order to help advance and catalyze transmission in the United States? Do states play a role? Any local efforts that can be done?

Ari: Yeah. So, there's a lot to say on those issues. I guess a couple things. First, is that, you know, we've been talking primarily about transmission planning and rates that are regulated by FERC. There's a separate class of projects that are called merchant projects that exist outside of all of the processes, the planning processes and rate making processes we've been talking about, and that's really where just a developer has an idea for a project and has a business model for that project. Maybe it's going to charge wind farms on one end of the project or to connect to the line, maybe it's going to charge utilities on the other end that want to buy the power from those wind farms. So, it has its own financing model and it has to go out and get permission from states to build those projects. It could be that some of this, the two and a half billion that I mentioned in the infrastructure law, could support some of these projects and really help them get over the development hump.

And these also could be the types of projects that might really benefit from federal siting authority that FERC now has, because these projects look very different from the projects that states typically providing siting permission for.

So, federal authority here might be really valuable. But in terms of the state role, yeah, transmission development is really shared by the states and by FERC. Importantly as, as I mentioned, states typically need to provide the siting permission. But I think more broadly than that, state leadership is really important because it's not just... you don't have to just to... get people to accept that we're going to build this line that you're going to have to see in certain parts of the state. You know, you also have to convince consumers that it's worth it for them to pay this cost. And where we've seen successful regional transmission development processes, I think state leadership from state regulators and even from state governors has really been important in, in continuing to drive the process forward. A big transmission development plan takes years of work, and so you need, I think, dedication from a lot of different parties to move it forward, and states are crucial players in that.

So, FERC's been trying to facilitate some dialogue with state regulators on these issues. It has a, a taskforce with state regulators that's met, I think, four or five times already. It's going to meet again at the next meeting of the National Association of Regulatory Utility Commissioners, or NARUC, in New Orleans in November. And so, you know, hopefully that dialogue is hopefully creating some shared vision of what transmission development should look like in this country. And I think that's, that's going to be really important.

Hannah: Thanks, and one final question, just to bring it back full circle. So, we have these merchant generators that can develop the large-scale transmission projects, and we have these utilities that can also develop them but they haven't historically. Have you seen any examples of utilities that have successfully built out regional transmission? And can they be leaders in this field? Or do you think it requires additional regulation?

Ari: I don't have a great example of the specific utility in mind. What your question makes me think about is just the utility comments that have been filed in the... particularly the RM21-17 proceeding, the long-term planning proceeding. And, what really has struck me is the lack of vision and lack of leadership by the utility industry. The main thrust of their comments is that they don't think transmission should be competitive, and so to the extent they've put in any evidence, or analysis, or studies into the proceeding, they've all been arguing against competition. But, the industry has never really made a case for itself about why it should be solely responsible with building this essential critical infrastructure that we need to modernize our economy.

And, you know, the industry is sitting on just so much data about all of the transmission projects that they've built over the past century, and there's just no analysis, no vision statement, no rough idea, no sketch, no nothing about what their vision is for the future. So, it's just astonishing to me that the industry has, in a sense, mailed it in in this really important proceeding for the future of the industry. And it really just... I think the classic utility position is just

backwards looking and defensive. And that's what comes through so clearly in their comments.

Hannah: Well, I think we'll end there on that really helpful observation. Thank you, Ari, for breaking down these complicated issues for us and doing this interview.

Ari: Thanks.

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