



## CleanLaw 79

### The Good Neighbor Plan for Interstate Ozone Pollution — April 6, 2023

Hannah Perls: Welcome to CleanLaw from the Environmental and Energy Law Program at Harvard Law School. In this episode, our executive director, Carrie Jenks, and staff attorney, Hannah Oakes Dobie, talk about EPA's latest regulation to address interstate ozone pollution, also known as the "Good Neighbor" plan. In this episode, Hannah and Carrie discuss how the rule's new design features will refine EPA's longstanding air transport program to require power plants to reduce smog-forming pollutants. We hope you enjoy this podcast.

Hannah Oakes Dobie: Today, I'm joined by Carrie Jenks, our executive director and in-house Clean Air Act expert, to discuss the "Good Neighbor" plan, which EPA finalized on March 15th. Carrie, thank you for taking the time to talk about this complex and important rule.

Carrie Jenks: Oh, my pleasure. Do you maybe want to start with the acronyms? All Clean Air Act rules have a lot of different acronyms, but this one in particular seems to have a lot. So maybe if we back up and just start with the acronyms that we're going to be using today. If you want to start with the air quality ones first?

Hannah: Yeah, so this rule implements the NAAQS, which are the National Ambient Air Quality Standards. These regulate criteria pollutants, including oxides of nitrogen emissions, and this also contributes to ground level ozone or smog formation. These emissions and the smog they form can affect air quality and public health locally, regionally, and in states hundreds of miles downwind from the source. So once EPA sets these standards, the states must develop SIPs, which are State Implementation Plans, to ensure the states comply with the NAAQS. And if EPA finds those SIPs inadequate, EPA can implement a FIP, which is a Federal Implementation Plan, to ensure the NAAQS are attained.

Carrie: Yeah, and as part of the Clean Air Act, there's this "good neighbor" provision, and that's the provision that the Act says EPA has to make sure that the state plans also don't contribute to a downwind state's non-air quality control. And so, EPA has gone through a long history of various programs to try to implement that "good neighbor" provision. We're going to talk about the CAIR, which is C-A-I-R, and that's the Clean Air Interstate Rule. Then we're going to talk about CSAPR, C-S-A-P-R, which is not the friendly ghost Casper, but the Cross-State Air Pollution Rule. And then, the rule we're talking about today is the Clean Air Act "Good Neighbor" rule and how it's implemented. The other key acronyms we'll talk about are the pollution control equipment technologies. So those are SCR, selective catalytic reduction controls, as well as SNCR, selective non-catalytic reduction. And those are the two controls that power plants can put on to address the ozone pollution that we'll talk about today.



Hannah: Great.

Carrie: So when we post the podcast, we'll put them in a transcript. We can also put in the show notes a few of the acronyms in there, so that people can refer to those as we go through this conversation.

Hannah: Okay. So now that we have the acronyms down, let's talk about the "Good Neighbor" plan itself. Congress requires, by statute, EPA to update the NAAQS periodically, and in 2015, EPA updated the ozone NAAQS to ensure Americans are protected from the negative health impacts of smog. These are called the 2015 Ozone NAAQS. Under the NAAQS' "good neighbor" provision, EPA must reject SIPs that do not adequately reduce ozone for downwind states, which would otherwise suffer from poor air quality with no recourse from the upstate source. In this rule, EPA is implementing FIPs for 23 states to require power plants and other industrial sources to reduce the ozone precursor NOx.

The "Good Neighbor" plan involves a cap-and-trade program and various other design features to meet the reduction requirements in a flexible way. So before we get into the intricacies of the rule, I think it would be helpful to set the stage with the background and litigation of prior interstate air pollution rules that EPA was required to consider in drafting this "Good Neighbor" plan rule. Carrie, could you please talk about how we got to the "Good Neighbor" plan rule and starting from the first NOx Budget Trading Program?

Carrie: Sure. So the NOx Budget Trading Program started in the late nineties, early two thousands, and there, EPA was trying to figure out how to help the downwind states in the Northeast reduce its summer ozone season emissions. And they established the NOx Budget Trading Program, which was the cap-and-trade program, to reduce regional transport of NOx emissions from power plants and other large combustion sources, the key element of the SIP call program that was started in 1998. That rule, in fact, ended up in the DC Circuit, and there, they affirmed EPA's ability to use cost to determine an upwind state's contribution that was significant in the meaning of the statute. Based on that rule, then EPA established the CAIR rule, or the Clean Air Interstate rule, that ran from mid 2009 into '14. And there, they were trying to address particulate matter, as well as ozone, and they created three trading programs, the CAIR SO2 Annual Program, the CAIR NOx Annual Program, and the CAIR NOx Ozone Season Trading Program.

In that case, it was addressing 28 eastern states, and EPA determined that those states were contributing to downwind air pollution. There, you had North Carolina oppose EPA's approach and arguing that it wasn't sufficiently addressing the environmental impact that they were seeing in their state. There were a lot of other issues going on in that case too. So the key piece to keep in mind about that case is they initially vacated the rule in 2008, but then, in December of 2008, they decided to remand it back. So they allowed the CAIR program to stay in place, but they told EPA to go back and fix some things. And what the key factor of what they were trying to tell EPA they had to fix is



that they wanted to make sure that an upwind state wasn't allowed to continue to contribute to a downwind state's non-attainment. The deadlines and the timing and the emissions reductions that the states had to do had to be tied to the fact that these downwind states had non-attainment concerns and deadlines that they had to implement.

Hannah: Okay. So by 2009, the DC circuit has issued a number of opinions. First, as you said, they upheld the NOx SIP call and EPA's consideration of costs in that rule. And they found issues with CAIR, but allowed EPA to keep CAIR in place while it worked to design a new rule that EPA determined how best to determine whether a state contributes significantly to a downwind state's nonattainment with the NAAQS. So Carrie, how did EPA then incorporate these considerations into the next rule?

Carrie: So there, they started with CSAPR, the Cross State Air Pollution Rule, and in 2011, they decided to replace the CAIR rule that the DC Circuit had remanded to them with the Cross State Air Pollution Rule, or CSAPR. And there, they looked at fossil fuel-fired EGUs, so coal plants, gas plants, and oil fired-facilities in 27 states. And they determined a variety of different trading programs, again, to reduce emissions and to address the legal principle that EPA had to make sure that they addressed the upwind states' contribution to downwind states. They've created a four-step process to assess, who were the downwind concerns, what were the downwind air quality concerns?

Figure out which upwind sources were contributing to that downwind concern, and then, how much of the significant contribution, which is the term in the Clean Air Act, actually could be tied to that. And then, what's the program, to actually make sure the sources did reduce those emissions? They finalized that rule, and like all of these rules that we're going to talk about today, they ended up back in the DC Circuit. And on December 30th, 2011, the DC Circuit decided to stay the rule, while it went through the process of hearing the case on the merits.

Hannah: So when you say CAIR came back into place, does this mean that a less stringent rule was in place to implement the NAAQS?

Carrie: Exactly. They kept a rule in place, but they were trying to decide whether the Cross-State was consistent with the Clean Air Act.

Hannah: So what happened next?

Carrie: So in August, 2012, the DC Circuit vacated CSAPR, meaning that it remanded the rule back to EPA and told EPA to continue to administer CAIR, pending its process of designing a replacement rule. However, EPA decided to appeal that case to the Supreme Court, and on April, 2014, the Supreme Court reversed the DC Circuit decision in *EPA v. EME Homer City Generation*. And there, the court held that the Clean Air Act does not commend the states be given a second opportunity to file a SIP, that we talked about.



So they didn't say the states have an opportunity to revise their SIP when EPA decides that it's inadequate. And they also concluded that the "Good Neighbor" does not require EPA to disregard costs and consider exclusively each upwind's physical proportionate responsibility to each downwind air quality problem. And this opinion has one of my favorite quotes in it, which I think it's important to keep in mind.

Justice Ginsburg then explained that further complicating the problem, and I'll quote is that "pollutants don't emerge from smokestacks of an upwind state and uniformly migrate downward. Some pollutants stay within upwind states' borders and the wind carries others to downwind states. And some subset of that group drifts to states without air quality problems." And I won't read her full quote, but encourage listeners to read it. But she recognizes and quotes the Bible in the process, that wind is moving around, and it's really hard to figure out what pollutant ends up where. But that's why we have agencies to do their best to model out where it's happening and account for how wind might move.

So a few other key points to keep in mind from that court's decision is that the court affirms that the Clean Air Act sets a series of precise deadlines for when states and EPA must adhere to it. Once EPA issues a new or revised NAAQS, that sets a timeline up without a lot of discretion for how states have to meet that attainment deadline. The court did, however, agree with the DC circuit that EPA can't require a source in an upwind state to control emissions in a downwind state. So EPA is responsible to try to actually figure out how much a source needs to reduce its emissions, in terms of making sure that the state and the downwind state can actually attain its non-attainment deadlines.

Hannah: So once the Supreme Court upheld CSAPR, does this mean that EPA could finally replace CAIR with CSAPR?

Carrie: Sort of. There were a lot of procedural issues remaining, but in the end, yes, I think the court allowed EPA to put CSAPR into place. EPA had to take some steps to make that happen in reality. But yes, the CSAPR rule started to come into effect.

Hannah: So by 2013, EPA's three NOx emissions trading programs had been the subject of multiple DC circuit opinions and one Supreme Court decision. Carrie, is there any other litigation that's relevant to the "good neighbor" plan rule?

Carrie: Yeah, and we're now up to the end of the Obama administration, and we're starting with the Trump administration in time, just to put it into context. And so far, EPA's rules have been looking at the 1997 ozone standard, but the 2008 ozone standard is also now at issue in this point in history. And so, EPA has to think through, what does it do to make sure that the downwind states can achieve their 2008 ozone NAAQS deadlines? And so, EPA issues the CSAPR Update rule, and that updates the budget for the Cross-State Air Pollution Rule in 2016, with a few state-specific changes. And we end up back



in continued litigation. September, 2019, the DC circuit remands the CSAPR Update rule without vacatur, so that this time, it stays in place. It was inconsistent, because it continued to allow the upwind states to have a significant contribution to downwind states, beyond the states' downwinds non-attainment deadline.

So we're back to this timing issue, to make sure that EPA's rules allow the downwind states to meet their deadlines. And now, under the Trump administration, EPA issues the CSAPR Closeout rule in 2018, saying all the modeling shows that these downwind states are going to be able to achieve their non-attainment. So this rule is done. They don't have to make more adjustments. But again, the DC Circuit vacates that rule, finding it relied on the same statutory interpretation that the court rejected in the CSAPR Update decision, saying again, EPA has not found that the downwind states are going to be able to achieve their NAAQS deadlines that are in place.

And EPA needs to ensure that the rule eliminates, not just reduces, upwind states' contribution. So the rule's back at EPA now to figure out what it's going to do. Now we're into March, 2021, we're under the Biden administration, EPA finalizes the revised CSAPR Update rule for the 2008 NAAQS. That gets challenged. We just now are into the March, 2023. The DC circuit just upheld that rule. So finally, we are upholding the 2008 NAAQS standard, but what happens is, now, we have a new ozone standard, the 2015 ozone standard, and that brings us to the "good neighbor" rule.

Hannah: So how do you think this litigation history impacts the final rule? What has EPA kept the same? And what has EPA changed in this rule, compared to prior iterations?

Carrie: Yeah, I think the history matters, because what is unique about this set of rulemakings is there's a lot of case law that really constrains what any administration can do. So you saw the Obama administration, the Trump administration, and now, the Biden administration really working within the confines of that structure. And for these reasons, you see EPA taking these four steps that I talked about, every single time, in the same way, trying to stay within what the court has said they have to do and what they must do, to try to figure this out. But what's changing is the power sector is changing. And so, you're starting to see a lot more retirements of coal plants, due to a variety of dynamics, market and regulatory. In EPA and states, we're seeing that the allowance prices in these programs were low, which allows units to operate their units without actually running the controls, because it's cheaper, in some instances, to buy allowances than to run the controls. And when we're talking about a health-based standard, that emissions outcome is important to keep in mind, and that's the structure that EPA is now trying to figure out.

Hannah: So now, let's focus on the new aspects of the rule. So the 2023 "Good Neighbor" plan implements FIPs for 23 states, requiring NOx emissions reductions from EGUs, electric generating units, and also, for the first time, certain industrial sources. So I want to focus on the power sector EGUs, because this is where EPA incorporated some



innovative mechanisms in the "Good Neighbor" plan. This rule's really focused on the ozone control season, which lasts from May to September of each year. And for the 2023 ozone season, the "Good Neighbor" plan requires EGUs to optimize existing, or already installed, emissions control technologies, the SCRs that Carrie was talking about earlier.

So in other words, EPA set the budget, based on the emissions equivalent of the EGUs optimizing these controls, and EGUs are allowed to trade allowances to efficiently meet that budget, that cap. Beginning in the 2024 season, the NOx emissions budget is set based on emissions reductions achieved through phased installation of state-of-the-art NOx controls, such as low NOx burners and overfire air. Starting the 2026 ozone season, the budget is set based on emissions reductions achieved through installation of new post-combustion controls, which are the SCRs and SNCRs.

Carrie: What you just talked about is similar to how EPA has structured it before, but there's some new design features. Can you talk about those a bit?

Hannah: Sure. There are three new design features that EPA is implementing in the 2023 "Good Neighbor" plan rule, and these really respond to what you mentioned earlier about the changing generation fleet. There's dynamic budgeting, there's a backstop daily emissions limit, and there's allowance bank adjustments.

Carrie: Okay, so talk about the dynamic budget first. Let's start there.

Hannah: Sure. So EPA is incorporating a combination of preset and dynamic budgets in this rule. For the control periods from 2023 to 2025, EPA is presetting the budget based on the factors I mentioned earlier, the emissions reductions that EGUs can achieve, based on installation of control technologies. However, in 2026 to 2029, for those control periods, EPA is implementing a dynamic budget, and how they're doing it is they're setting a floor for the preset budget. And they will adjust the dynamic budget upwards to account for EGU new builds, and retirements, if those are higher. So from 2030 on, EPA is going to stick with a dynamic budget for those control periods.

Carrie: Meaning it could go up or down after 2030, correct?

Hannah: That's correct, yeah.

Carrie: All right. How does the daily backstop limit work?

Hannah: So EPA included a backstop daily emissions limit really to incentivize these large coal plants over a hundred megawatts to turn on their control equipments during high-emission ozone days, when a state might exceed its daily limit.

Carrie: Does it apply immediately? Or how are they phasing that in?



- Hannah: It's going to apply in 2024 for coal plants that already have SCRs installed, and then, after 2024, the daily limit will apply to those coal plants after they install the SCR. But to all coal plants in 2030. So there's an incentive really to install an SCR by 2030.
- Carrie: And then, the third piece is the allowance bank adjustment. And that operates a little bit differently though, right?
- Hannah: That's correct. So one of the flexibilities of a cap-and-trade program is EGUs can really reduce their emissions early on and bank allowances. So they might have a surplus going into the next control period. So EPA is going to recalibrate that emissions budget to account for any unused allowances and adjust the bank, based on the preset formula, and will provide a revised budget in the next control period.
- Carrie: Yeah, so I think all three pieces are really interesting, because they're trying to allow the cap-and-trade program to work in a way which is inherently trying to allow companies to decide what's the most cost effective way to comply. So the daily backstop rate ensures that, each day, they're meeting at least an emission reduction that's required, but then, the extra allowances allow them to operate more if they need to. If you need it for reliability, they've got that headroom to do that, but they're also trying to pull those allowances out in the long run, to make sure that the cap's tight enough, that there's a market incentive also to run those controls. But do you think the rule requires anyone to retire? Or is there enough flexibility to keep going?
- Hannah: No, the rule does not require any EGUs to retire. The rule requires the power plants to internalize these externalities of harmful smog by incentivizing them to install control technologies, that will reduce the emissions. Therefore, the rule makes it more expensive to run the power plants, and this might change the economics of dispatching electric generation resources, to where it might be actually less expensive to dispatch renewables, compared to coal and gas plants. But this rule does not supersede any power sector processes that are designed to ensure reliability, as a generation resource mix changes.
- Carrie: And I thought it was interesting. We also saw a memo come out from EPA and DOE on how they would work if the unit does need to run and the allowance's markets too tight, how EPA and DOE are going to work that out. All that being said, we do expect litigation, so maybe we should talk about what's next. You talked about, at the beginning, that the first step in this process was for EPA to determine that some of the state implementation plans or the SIPs were inadequate. So litigation's already started on that decision, that first floor decision, and I think, given all the litigation we're already seeing on the SIPs and this history that's been going on since the early two thousands, we expect the rule to be challenged. But first, it needs to be published in the Federal Register. Maybe we can talk a little bit about what we're watching for.



One thing I think's interesting is that, usually, you don't see environmental cases stayed or vacated or remanded in this back and forth of the DC Circuit, deciding to stay certain cases, while EPA revises it, then it's being appealed to the Supreme Court. I think we are going to see motions for stay, given that we've already seen them on some of the SIP litigation, but I do think this case will end up before the DC Circuit. The DC Circuit has a long history, so there's a lot of precedent and experience with these rules in particular. And I think it's going to be important to watch which states align on which issues here and where the NGOs are. And then, I think it's important to think through the timing for the controls. And so, you walk through some of the timing dates, but all of that is starting to align with other rules as well.

So thinking through, how does this align with power sector decisions, whether they're complying with the effluent limitation guidelines, Mercury and Air Toxics Standards we're expecting soon, and then, the greenhouse gas standards? And how do these rules align? What's really unique here though is that these timings are based on what EPA thinks possible, but also, what does the Clean Air Act say very explicitly about timing for attaining the National Ambient Air Quality Standards? So EPA has a tight box to work within.

Hannah: Thank you for this really helpful overview and your thoughts on the rule. And thank you for joining me today and talking about the "Good Neighbor" plan rule.

Carrie: My pleasure.

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