

**UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION**

Application for Permits to Site Interstate) Docket No. RM22-7-000
Electric Transmission Facilities)

COMMENTS OF THE INSTITUTE FOR POLICY INTEGRITY
AT NEW YORK UNIVERSITY SCHOOL OF LAW

Pursuant to the Federal Energy Regulatory Commission’s (FERC or the Commission) January 17, 2023 Notice of Proposed Rulemaking (NOPR), *Application for Permits to Site Interstate Electric Transmission Facilities*,¹ the Institute for Policy Integrity at New York University School of Law (Policy Integrity) respectfully submits these comments.² Policy Integrity is a non-partisan think tank dedicated to improving the quality of government decisionmaking through advocacy and scholarship in the fields of administrative law, economics, and public policy.

The NOPR describes proposed procedures relating to Section 216 of the Federal Power Act (FPA),³ which empowers the Commission to exercise backstop siting authority for the construction of electric transmission projects “consistent with the public interest,” under certain circumstances.⁴ To implement Section 216, FERC proposes to amend its National Environmental Policy Act (NEPA) regulations to require permit applicants to submit some new and reorganized resource reports, including air-quality, environmental justice, and alternatives reports.⁵ These comments focus on what information belongs in these three reports, and how FERC should use

¹ *Application for Permits to Site Interstate Electric Transmission Facilities*, 182 FERC ¶ 61020 (proposed Jan. 17, 2023) [hereinafter NOPR].
² This letter does not purport to represent the views, if any, of New York University School of Law.
³ NOPR, *supra* note 1, at P 1.
⁴ 16 U.S.C. § 824p(b)(3). This standard puts the burden of demonstrating consistency on the project proponent. The suggestions contained herein are designed to help both applicants and FERC understand what is essential for making this showing.
⁵ NOPR, *supra* note 1, at P 74.

its resulting NEPA analysis to help evaluate whether projects meet Section 216's public interest standard. Specifically:

- For the air-quality and alternatives reports, the NOPR requires applicants to estimate reasonably foreseeable emissions from the operation of the proposed transmission project and alternatives thereto. FERC should clarify that this requirement includes emissions from changes to power-system operations (including by enabling new power plants to come online), because these emissions are reasonably foreseeable and essential to FERC's public interest determination under the FPA. The Commission must also evaluate these estimates in its NEPA analysis, which will inform its FPA decision; having these data early in the application process will streamline decisionmaking and help develop a legally robust administrative record.
- The Commission's proposed definition of "environmental justice community" is limited to communities who have been "overburdened by pollution." FERC should amend the definition to recognize that an environmental justice community is a historically marginalized community that bears any type of disproportionate environmental burden—which may or may not be pollution—or faces disparities in access to environmental benefits.
- For the environmental justice and alternatives reports, FERC should instruct applicants to use an additional methodology for identifying environmental justice communities to supplement the Commission's current demographics-only approach. The supplemental methodology should incorporate environmental indicators that serve as proxies for a community's environmental burden.
- For communities that are not identified as environmental justice communities under FERC's eventual methodology, the Commission should establish a mechanism to receive and evaluate communities' evidence that they are environmental justice communities.
- For the environmental justice and alternatives reports, the Commission should provide applicants with additional guidance on how to conduct cumulative-impacts analyses. This guidance should include definitions of key terms and descriptions of authoritative resources for how to perform such an analysis. FERC should underscore that cumulative-impacts analyses must consider increases to levels of criteria pollutants even when cumulative levels remain below the National Ambient Air Quality Standards.

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I. FERC Should Clarify That Applicants Must Document How the Proposed Transmission Project and Its Alternatives Would Affect Air Pollution From the Power System.

Section 216 is designed to ensure that developers build transmission rapidly in a manner that achieves national energy policy goals and ensures grid security and reliability.⁶ As the Department of Energy (DOE) explained last week in relation to Section 216’s provision on National Interest Electric Transmission Corridors (which are the only places where FERC can exercise backstop authority), a primary goal of federal transmission policy is to facilitate the clean energy transition.⁷ The Administration’s goal of “a transition to a 100% clean electric power sector by 2035 . . . would require an increase in transmission system capacity estimated to total between 1.3 to 2.9 times the amount of existing transmission capacity.”⁸ In turn, “[t]he incorporation of clean energy resources facilitated by additional transmission development will also expand energy resource diversity, promote resilience and reliability of the Nation’s electricity grid, and lower costs to consumers by adding new low cost electricity supply.”⁹ However, whether any particular transmission project will promote these ambitions will depend on project-specific factors.¹⁰ A particular project could actually increase power-system emissions.¹¹ Or a proposed project could decrease emissions, but by less than a plausible alternative route.

⁶ See 16 U.S.C. § 824p(b).

⁷ *Notice of Intent and Request for Information: Designation of National Interest Electric Transmission Corridors*, 88 Fed. Reg. 30956, 30957–58 (May 15, 2023) [hereinafter NIETC Notice of Intent].

⁸ *Id.* at 30957.

⁹ *Id.* at 30957–58.

¹⁰ JUDY W. CHANG ET AL., BRATTLE GRP., *THE BENEFITS OF ELECTRIC TRANSMISSION: IDENTIFYING AND ANALYZING THE VALUE OF INVESTMENTS* 54 (2013), <https://perma.cc/Y3N6-TEMW> (“Not every proposed transmission project will necessarily provide environmental benefits. Some transmission investments can be environmentally neutral or even displace clean but more expensive generation (e.g., displacing natural gas-fired generation when gas prices are high) with lower-cost but higher-emission generation.”).

¹¹ *Id.*

Accordingly, FERC cannot approve a transmission project under Section 216 unless the Commission understands the proposed project’s impact on power-system emissions. In other words, FERC must analyze how power plants, including plants that have not yet been built or interconnected, will increase or decrease their output as a result of the new transmission capacity, and the resulting effects on air pollution. This conclusion flows from at least three requirements of Section 216: To approve a project, FERC must ensure it (1) “is consistent with the public interest,” (2) “protects or benefits consumers,” and (3) “is consistent with sound national energy policy.”¹² Power-system emissions also belong in FERC’s NEPA analysis underpinning its Section 216 decisionmaking. Without a clear and robust administrative record that reflects consideration of a project’s impacts on power-system operations emissions, FERC’s approvals of transmission projects will be legally vulnerable and could lead to delays for developers.

A. To assist it with determining whether transmission projects satisfy Section 216’s legal standard and to fulfil NEPA’s mandates, FERC should require applicants to estimate a project’s impact on power-system emissions.

Congress authorized FERC to weigh the emissions from transmission projects—including the project’s impacts on power-system emissions—when it directed FERC to ensure that Section 216 permits are “consistent with the public interest.”¹³ Because the Commission must consider these emissions under the FPA, they also belong in FERC’s underlying NEPA analysis, which must include reasonably foreseeable direct and indirect air-quality effects.¹⁴ This obligation is confirmed by CEQ’s interim NEPA guidance on consideration of greenhouse gas

¹² 16 U.S.C. § 824p(b)(3)–(5).

¹³ *Id.* § 824p(b)(3).

¹⁴ 40 C.F.R. § 1508.1(g) (“Effects or impacts means changes to the human environment from the proposed action or alternatives that are reasonably foreseeable and include the following: (1) Direct effects, which are caused by the action and occur at the same time and place. (2) Indirect effects, which are caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable. Indirect effects may . . . related effects on air . . .”).

emissions, which advises agencies to “quantify the reasonably foreseeable direct and indirect [greenhouse gas] emissions of their proposed actions and reasonable alternatives (as well as the no-action alternative).”¹⁵

To effectuate these obligations, the NOPR would update FERC’s NEPA regulations to require applicants to submit an air-quality report that “[e]stimate[s] the reasonably foreseeable emissions from construction, operation, and maintenance of the project facilities . . . expressed in tons per year,”¹⁶ whether direct or indirect.¹⁷ Applicants must provide the same estimates for project alternatives in the alternatives report.¹⁸ Yet the NOPR does not specifically mention impacts on power-system emissions when it offers examples of reasonably foreseeable emissions.¹⁹ As more fully explained below, FERC should clarify that the NOPR’s directive to estimate reasonably foreseeable emissions for the proposed project and its alternatives includes the project’s impacts on power-system emissions. The Commission could execute this recommendation by amending its illustrative list of emissions that belong in the air-quality report. Ensuring that applicants submit these estimates in their air-quality and alternatives reports would help the Commission to carry out its statutory duties to consider these emissions under Section 216 and NEPA.

¹⁵ *National Environmental Policy Act Guidance on Consideration of Greenhouse Gas Emissions and Climate Change*, 88 Fed. Reg. 1196, 1201 (Jan. 9, 2023) [hereinafter *Interim Greenhouse Gas Guidance*].

¹⁶ NOPR, *supra* note 1, at 97.

¹⁷ 18 C.F.R. § 380.16(b)(1).

¹⁸ NOPR, *supra* note 1, at 98.

¹⁹ *Id.* at 97 (listing “emissions from tailpipes, equipment, fugitive dust, open burning, and substations”).

1. To decide whether a transmission project is consistent with the public interest, FERC must consider its impacts on power-system emissions.

Two Congressional members have asked FERC to explain the statutory basis for requiring Section 216 applicants to estimate emissions,²⁰ and some FERC Commissioners have appeared to suggest that the Commission lacks authority to reject a proposed infrastructure project based on environmental considerations when there is demand for that project.²¹

FERC’s authority to require applicants to estimate a project’s emissions—including a project’s impacts on power-system emissions—derives from the Commission’s obligation to assess whether a proposed transmission project would satisfy Section 216’s requirement of “consisten[cy] with the public interest.”²² The Supreme Court has instructed that, for the FPA and the Natural Gas Act (NGA), “in order to give content and meaning to the words ‘public interest’ . . . , it is necessary to look to the purposes for which the Acts were adopted.”²³ These purposes provide FERC with “authority to consider . . . environmental . . . questions.”²⁴ Given how climate change and conventional air pollution threaten the public interest, the Commission

²⁰ Letter from Cathy McMorris Rodgers, Chair, Comm. on Energy and Com., & Jeff Duncan, Chair, Subcomm. on Energy, Climate, & Grid Security, to Willie L. Phillips, Acting Chairman, FERC, et al. 2 (Mar. 3, 2023), <https://perma.cc/LKZ8-KK7D> [hereinafter Rodgers & Duncan Letter].

²¹ Transcript of the March 29th 2023 Roundtable on Environmental Justice and Equity in Infrastructure Permitting at 205:23–206:6, *Environmental Justice & Equity in Infrastructure Permitting Roundtable*, Docket No. AD23-5-000 (Apr. 5, 2023) (Accession No. 20230405-4001) [hereinafter EJ Roundtable Transcript] (statement of Acting Chair Phillips) (stating that FERC’s “hands are tied” with respect to environmental justice because the Commission is “required” to approve infrastructure projects “that are brought to” it); *id.* at 19:18–21 (statement of Comm’r Danly) (stating that “you have to build it” if a facility is “really needed by the public”); Certification of New Interstate Natural Gas Facilities, 178 FERC ¶ 61,107, at P 11 (2022) (Christie, Comm’r, dissenting) (arguing that FERC lacks authority “to reject a project otherwise needed by the public based solely on adverse impacts to environmental interests,” including impacts on “environmental justice communities”) (emphases omitted) (internal quotation marks omitted). Of course, these demand inquiries arise under a public convenience and necessity legal standard, which is not the operable standard at hand. Compare 15 U.S.C. § 717f(c), with 16 U.S.C. § 824p(b).

²² 16 U.S.C. § 824p(b)(3).

²³ NAACP v. Fed. Power Comm’n, 425 U.S. 662, 669 (1976).

²⁴ *Id.* at 670 n.6.

must consider effects of proposed projects and their alternatives on power-system emissions when granting permits under Section 216.

D.C. Circuit decisions—most notably *Sierra Club v. FERC* (known colloquially as *Sabal Trail*)—confirm the Commission’s authority to consider environmental impacts generally, and indirect emissions specifically, in permitting decisions.²⁵ In that case, the court addressed the factors that FERC should weigh under the NGA when issuing certificates of public convenience and necessity to natural-gas-pipeline developers.²⁶ Because FERC must “find[] that the project will serve the public interest,” the D.C. Circuit held that “FERC could deny a pipeline certificate on the ground that the pipeline would be too harmful to the environment” in light of the indirect emissions from burning the pipeline’s gas.²⁷ The D.C. Circuit subsequently reaffirmed that analysis in *Birckhead v. FERC*, in which it recognized that FERC may consider “indirect environmental effects” despite “lack[ing] jurisdiction over the producer . . . of the gas transported by the pipeline.”²⁸ The same logic applies to Section 216: FERC could reject a permit application because the transmission line’s impacts on power-system emissions would harm the environment and thus the public interest.²⁹ Clarifying that applicants must estimate these emissions for projects and their alternatives would help the Commission to more comprehensively evaluate the merits of proposed transmission projects.

²⁵ 867 F.3d 1357 (D.C. Cir. 2017).

²⁶ *Id.* at 1373.

²⁷ *Id.* at 1364, 1373; *see also* Fed. Power Comm’n v. Transcon. Gas Pipe Line Corp., 365 U.S. 1, 30–31 (1961) (upholding FERC’s assessment of air pollution impacts as part of the public-convenience-and-necessity determination); Order No. 407, Statement of General Policy and Amendments to Section 157.14(a), 44 F.P.C. 47, 49 (1970) (recognizing “air pollution” as a “factor[] in natural gas certificate cases” and providing examples of prior consideration); Statement of Policy, *Certification of New Interstate Pipeline Facilities*, 88 FERC ¶ 61,227, at 14 (1999) (explaining that, “[i]n reaching a final determination on whether a project will be in the public convenience and necessity, the Commission performs a flexible balancing process” that considers “the proposal’s market support, economic, operational, and competitive benefits, and environmental impact”).

²⁸ 925 F.3d 510, 519 (D.C. Cir. 2019).

²⁹ *NAACP*, 425 U.S. at 669 (equating the public interest standards of the FPA and the NGA).

Importantly, even if Section 216’s public interest standard somehow did not encompass power-system emissions, these emissions would still be relevant to two other items that FERC must consider under Section 216: whether “the proposed construction or modification . . . protects or benefits consumers” and “is consistent with sound national energy policy.”³⁰ The health and climate impacts of emissions are externalities, i.e., costs of power generation that producers impose on others (including consumers, in this instance).³¹ And a sound national energy policy—as articulated by the Biden Administration—includes fully decarbonizing the electricity sector by 2035.³²

2. Because these power-system emissions are reasonably foreseeable and relevant to Section 216, FERC must analyze them under NEPA and develop the record if it lacks sufficient estimates.

Because FERC must consider a project’s power-system emissions when conducting its public interest review (and during the Commission’s mandatory consideration of consumer protection/benefits and consistency with a sound national energy policy), the Commission is obligated under NEPA to review estimates of these emissions for any proposed transmission project and its alternatives. Per the D.C. Circuit, the general rule is this: An agency must gather information about and consider reasonably foreseeable environmental effects under NEPA unless “it has no statutory authority to act on that information.”³³ Applying that rule in *Sierra Club*, the D.C. Circuit held that FERC needed to assess the reasonably foreseeable greenhouse gas

³⁰ 16 U.S.C. § 824p(b)(4)–(5).

³¹ See PAUL KRUGMAN & ROBIN WELLS, MICROECONOMICS 437 (2d ed. 2009) (“An externality is an uncompensated cost that an individual or firm imposes on others.”); ENV’T PROT. AGENCY, EPA EXTERNAL REVIEW DRAFT OF REPORT ON THE SOCIAL COST OF GREENHOUSE GASES: ESTIMATES INCORPORATING RECENT SCIENTIFIC ADVANCES (2022), <https://perma.cc/C73G-LLVE> (providing updated, draft estimates of the net harm that an additional metric ton of different greenhouse gases would impose on society).

³² Exec. Order No. 14008 § 205, 86 Fed. Reg. 7619, 7624 (Jan. 27, 2021); see also U.S. OF AM., NATIONALLY DETERMINED CONTRIBUTION: REDUCING GREENHOUSE GASES IN THE UNITED STATES: A 2030 EMISSIONS TARGET 1 (2021), <https://perma.cc/7X3N-8Q89> (articulating the United States’ pledge under the Paris Agreement to “reduc[e] its net greenhouse gas emissions by 50-52 percent below 2005 levels in 2030”).

³³ *Sierra Club*, 867 F.3d at 1372 (emphasis omitted).

emissions that would indirectly result from approving a natural gas pipeline, because FERC could deny (or modify, or condition) a pipeline certificate on the basis of those indirect emissions.³⁴ Additionally, an agency may exercise reasonable “discretion to interpret its underlying statute to ensure that its compliance with [NEPA] is more than a pointless bureaucratic exercise.”³⁵

Returning to Section 216, as explained in Part I.A.1, FERC can deny a Section 216 permit based on these emissions—and, a project’s power-system emissions are reasonably foreseeable for the reasons discussed below in Part I.B. Accordingly, FERC should include estimated power-system emissions for proposed transmission projects and their alternatives in its NEPA analyses.³⁶ This would be good policy because, as CEQ has explained, “[a]n agency decision maker can make a more informed decision about how a proposed action aligns with the agency’s statutory authorities and policies when she has information on the comparative potential air pollution effects and greenhouse gas emissions of the proposed action and alternatives, including the no action alternative.”³⁷ Including these emissions in FERC’s NEPA analyses would also accord with CEQ’s guidance on greenhouse gas emissions, which states that, “[a]s part of the NEPA documents they prepare, agencies should quantify the reasonably foreseeable gross [greenhouse gas] emissions increases and gross [greenhouse gas] emission

³⁴ *Id.* at 1373–74.

³⁵ *Vill. of Barrington v. Surface Transp. Bd.*, 636 F.3d 650, 667 (D.C. Cir. 2011).

³⁶ To the extent that a transmission project would, on net, reduce emissions, NEPA’s rule of reason indicates that FERC should generally quantify the reduction but may decrease the “depth of analysis such that precision regarding emission reduction benefits does not come at the expense of efficient and accessible analysis.” Interim Greenhouse Gas Guidance, *supra* note 15, at 1202; *see Dep’t of Transp. v. Pub. Citizen*, 541 U.S. 752, 754 (2004) (“[I]nherent in NEPA and its implementing regulations is a ‘rule of reason,’ which ensures that agencies determine whether and to what extent to prepare an [environmental impact statement] based on the usefulness of any new potential information to the decisionmaking process.”).

³⁷ National Environmental Policy Act Implementing Regulations Revisions, 87 Fed. Reg. 23453, 23467 (Apr. 20, 2022).

reductions for the proposed action, no action alternative, and any reasonable alternatives over their projected lifetime, using reasonably available information and data.”³⁸

Indeed, if FERC were to issue a Section 216 permit without requesting these data from the applicant or otherwise obtaining it, the permit would be legally vulnerable. According to the D.C. Circuit, when an initial lack of record evidence prevents FERC from considering an environmental impact, “NEPA . . . requires the Commission to at least *attempt* to obtain the information necessary to fulfill its statutory responsibilities” through “further developing the record by requesting additional data from the project applicant.”³⁹ FERC could address Section 216 applications more efficiently by requiring this information from applicants on the front end, rather than in response to commenters’ objections. Requiring applicants to provide this information in the air-quality and alternatives reports would also conform to CEQ’s recommendation that agencies analyze emissions as early as possible in their planning processes.⁴⁰ Early consideration of project impacts on power-system emissions would help FERC to better identify alternatives, improve opportunities for public feedback, and ensure that environmental effects are fully considered before the decision has effectively been made.⁴¹

B. Power-system emissions impacts from transmission projects are reasonably foreseeable.

Although the NOPR fails to specifically mention a project’s power-system emissions impacts, its requirement that applicants disclose “reasonably foreseeable emissions from . . .

³⁸ Interim Greenhouse Gas Guidance, *supra* note 15, at 1201 (footnote omitted).

³⁹ *Birckhead*, 925 F.3d at 519–20; *accord* Food & Water Watch v. FERC, 28 F.4th 277, 285 (D.C. Cir. 2022) (“[A]n initial lack of information does not afford an agency carte blanche to disregard indirect effects. . . . [T]he Commission must attempt to gather the information necessary to assess the project’s potential indirect effects.”); Interim Greenhouse Gas Guidance, *supra* note 15, at 1202 (“[A]gencies should seek to obtain the information needed to quantify [greenhouse gas] emissions, including by requesting or requiring information held by project applicants or by conducting modeling when relevant.”).

⁴⁰ Interim Greenhouse Gas Guidance, *supra* note 15, at 1198.

⁴¹ *Id.* at 1198–99, 1204.

operation” in both the air-quality and alternatives reports indicates that power-system emissions must be included.⁴² Such emissions estimates are applicant- and FERC-accessible through readily available modeling software that closely resembles (or is identical to) what applicants will deploy to generate other information required by the NOPR, and FERC has previously required and received such emissions estimates from transmission developers. FERC’s final rule should make explicit what is implicit in its NOPR, by adding a project’s impacts to power system emissions to its exemplary list of reasonably foreseeable emissions.

Doing so would both clarify applicants’ obligations and ensure that FERC has a robust administrative record supporting its statutory determinations under NEPA and FPA Section 216. Because NEPA requires the Commission to disclose the reasonably foreseeable emissions of projects and their alternatives, explicitly requiring applicants to submit these estimates would bolster FERC’s ability to engage in reasoned decisionmaking. And since FERC’s NEPA analysis helps form the basis of its Section 216 multi-faceted determination (i.e., that the line is consistent with the public interest, sound national energy policy, and consumer protection), requiring applicants to provide power-system emissions estimates would help ensure that FERC has substantial evidence when issuing permits. Ensuring that the applicant provides these emissions estimates up front in its resource reports will provide applicant certainty and streamline approvals.

1. FERC previously requested—and developers have provided—estimates of power-system emissions impacts from transmission projects.

Despite having had little opportunity to exercise transmission siting authority, FERC has a history of requesting and receiving estimates of power-system emissions impacts from transmission project developers. In 2008, an applicant asked FERC to exercise Section 216

⁴² See NOPR, *supra* note 1, at 97.

backstop siting authority for the proposed Devers-Palo Verde No. 2 Project, which involved building a transmission line from California to Arizona.⁴³ The Commission requested additional environmental information from the applicant, including “[a]ir emission levels (e.g., carbon dioxide, oxides of nitrogen, and particulates) based upon the expected changes in the type, level, and location of electric generation associated with the project.”⁴⁴ FERC cautioned that “[t]his information is necessary for the Commission to conduct its environmental review of the proposed facility as required by [Section 216 of the FPA]” and, “[w]ithout this information, the pre-filing phase of the proceeding will be incomplete.”⁴⁵ The applicant complied with FERC’s request by submitting modeling results showing how the project would cause power plants in California and Arizona to increase or decrease their output and how these shifts would affect emissions of SO₂, NO_x, and CO₂.⁴⁶

Similarly, in 2015, DOE received information about the emissions impacts of the Plains & Eastern Clean Line, a proposed transmission project stretching from Oklahoma to Tennessee.⁴⁷ This project aimed to bring electricity generated from wind farms in the central United States to load centers in the South and Southeast.⁴⁸ The developer submitted modeling

⁴³ Initial Filing of Southern California Edison Company for the Devers-Palo Verde No. 2 Project at 1, *Pre-Filing and Application for Electric Transmission Facilities*, Docket No. PT08-1-000 (May 16, 2008) (Accession No. 20080516-4009).

⁴⁴ Pre-Filing Request for Additional Information at 18, *Pre-Filing and Application for Electric Transmission Facilities*, Docket No. PT08-1-000 (Dec. 8, 2008) (Accession No. 20081208-3038).

⁴⁵ *Id.* at 1.

⁴⁶ Responses to Request Dated December 8, 2008, Enclosure 2, at 2, 9–231, *Pre-Filing and Application for Electric Transmission Facilities*, Docket No. PT08-1-000 (Feb. 6, 2009) (Accession No. 20090218-0134).

⁴⁷ CLEAN LINE ENERGY PARTNERS, PLAINS & EASTERN CLEAN LINE: 1222 PROGRAM – PART 2 APPLICATION, 1-1, 3-8 to 3-10 (2015), <https://perma.cc/WC2H-4VRY> [hereinafter PLAINS & EASTERN CLEAN LINE APPLICATION]. This project was not proposed pursuant to Section 216; instead, a developer proposed it in response to a Department of Energy request for proposals under 42 U.S.C. 16421. *See Plains & Eastern Clean Line Transmission Line*, DEP’T OF ENERGY, <https://perma.cc/6W6A-T35D>.

⁴⁸ PLAINS & EASTERN CLEAN LINE APPLICATION, *supra* note 47, at 2-1.

results of the estimated impacts on SO₂, NO_x, CO₂, and mercury emissions, broken out by Tennessee, Arkansas, and the rest of the Eastern Interconnection.⁴⁹

These historical examples demonstrate that power-system emissions impacts from proposed transmission projects are reasonably foreseeable for developers. As such, FERC should clarify for applicants that the NOPR's existing requiring to estimate reasonably foreseeable emissions includes these emissions.

2. Readily available modeling software can estimate power-system emissions impacts from transmission projects.

Developers were able to provide estimates of power-system emissions for the aforementioned projects because software with these modeling capabilities is readily available. Both production-cost models and capacity-expansion models can generate these estimates. Each type of model is capable of forecasting how adding new transmission capacity would affect power generation and emissions throughout the grid.

Production-cost models simulate the operation of the power system by computing the least-cost dispatch scenarios that meet anticipated load.⁵⁰ In other words, they reveal which power plants would be generating electricity and how much. Outputs from this family of models include sub-hourly unit-level generation and the resulting emissions, which the models produce by applying plant-specific emission factors to the dispatch scenarios.⁵¹ Because these emissions estimates are a simple extension of the predicted dispatch scenarios, they are as credible as the models' other outputs that flow from anticipated dispatch scenarios, such as locational marginal prices and reliability.

⁴⁹ LEIDOS ENGINEERING LLC, PLAINS & EASTERN CLEAN LINE BENEFIT ANALYSIS 2 (2015), <https://perma.cc/23TH-Y8R9>.

⁵⁰ DEP'T OF ENERGY, POWER SECTOR MODELING 101 at 19, <https://perma.cc/7ZUS-ZVPT> [hereinafter POWER SECTOR MODELING 101].

⁵¹ *Id.* at 20.

Moreover, production-cost models would allow developers to estimate emissions impacts that reflect not only the existing generation fleet, but also the generation resources that would be built or become interconnected to the grid as a result of a proposed transmission project. To do this, the developer would generate scenarios of the resources expected to be built or interconnected and plug the resources into the production-cost model as additional inputs. For example, a developer could reasonably anticipate (and then feed into a production-cost model) that a transmission project built between a load center and an area with an excellent wind resource would enable the development of wind turbines, in an amount that reflects the transmission capacity of the proposed project.⁵² Or a developer could look at the interconnection queue to see which projects are planned.

Alternatively, a developer could use one of the many available capacity-expansion models to simulate the optimal build-out of generation resources in light of the new transmission line and use these results as inputs for a production-cost model. Capacity-expansion models jointly minimize investment costs and expected production costs given assumptions about technology costs and performance, fuel costs, electricity demand, and other variables.⁵³ Put more simply, they compute the cheapest way to meet the demand for electricity, including through the build-out of new generation resources. It would also be possible to estimate power-system emissions impacts from a transmission project using only a capacity-expansion model that

⁵² *E.g.*, PLAINS & EASTERN CLEAN LINE APPLICATION, *supra* note 47, at 2-2 (“The increased demand for transmission capacity on the Project proposed by Clean Line is unquestionable. Clean Line recently conducted an open solicitation for transmission service requests over the Project. Clean Line received 29 requests from 15 different transmission customers. Together, these customers requested 17,091 MW of transmission service, or 392% of the Project’s total 4,355 MW of West-East transfer capacity. The increased demand for interregional capacity to connect wind-rich zones with load-centers exists today.” (emphases omitted)).

⁵³ POWER SECTOR MODELING 101 at 10.

includes dispatch scenarios and emissions factors, without the need for a production-cost model.⁵⁴

Two examples of commercially available production-cost models are PROMOD and PLEXOS.⁵⁵ The Midcontinent Independent System Operator (MISO) uses both to analyze grid operations under different economic and policy-driven scenarios.⁵⁶ MISO recently forecasted (through these models or others) that a tranche of proposed transmission lines would result in billions of dollars of benefits from reduced CO₂ emissions.⁵⁷ PJM Interconnection uses PROMOD to model the benefits of transmission expansion.⁵⁸ Capacity-expansion models include the Environmental Protection Agency's (EPA) Integrated Planning Model, the National Renewable Energy Laboratory's Regional Energy Deployment System (which is open source), GenX (also open source), and Hitachi Energy's Capacity Expansion.⁵⁹ PLEXOS, one of the production-cost models described above, also has capacity-expansion capabilities.⁶⁰ Capacity expansion models are a reputable way to forecast outcomes in the power system; for example, in EPA's recent proposed rule on emissions standards for light- and medium-duty vehicles, the

⁵⁴ *See id.* at 11.

⁵⁵ *Id.* at 21; *see PROMOD*, HITACHI ENERGY, <https://www.hitachienergy.com/us/en/products-and-solutions/energy-portfolio-management/enterprise/promod> (last visited May 16, 2023); *PLEXOS*, ENERGY EXEMPLAR, <https://perma.cc/H8R7-QAKP>.

⁵⁶ MIDCONTINENT INDEPENDENT SYSTEM OPERATOR, PLANNING MODELS USED BY MISO 14 (2018), <https://perma.cc/6SYS-P5LM>.

⁵⁷ MIDCONTINENT INDEPENDENT SYSTEM OPERATOR, MISO TRANSMISSION EXPANSION PLAN: MTEP21 ADDENDUM - LRTP TRANCHE 1 REPORT OVERVIEW 13 (2022), <https://perma.cc/A5NQ-6FHR>.

⁵⁸ PJM INTERCONNECTION, MARKET EFFICIENCY STUDY PROCESS AND RTEP WINDOW PROJECT EVALUATION TRAINING 7, 16 (2022), <https://perma.cc/K8FU-K62P>.

⁵⁹ POWER SECTOR MODELING 101 at 12; *Post-IRA 2022 Reference Case*, ENV'T PROT. AGENCY (Apr. 5, 2023), <https://www.epa.gov/power-sector-modeling/post-ira-2022-reference-case>; *Regional Energy Development System Model*, NAT'L RENEWABLE ENERGY LAB'Y, <https://www.nrel.gov/analysis/reeds/> (last visited May 16, 2023); *GenX Documentation*, MIT ENERGY INITIATIVE AND PRINCETON UNIVERSITY ZERO LAB, <https://genxproject.github.io/GenX/dev/> (last visited May 16, 2023); *Capacity Expansion*, HITACHI ENERGY, <https://www.hitachienergy.com/us/en/products-and-solutions/energy-portfolio-management/enterprise/capacity-expansion> (last visited May 16, 2023).

⁶⁰ *PLEXOS*, ENERGY EXEMPLAR, <https://perma.cc/H8R7-QAKP>.

agency used the Integrated Planning Model to estimate power-system emissions from increased adoption of electric vehicles.⁶¹ The widespread availability and deployment of these modeling tools further establish that power-system emissions impacts are reasonably foreseeable for Section 216 applicants and thus belong in the air-quality and alternatives reports.

3. Given the other information required by the NOPR, it would be easy for applicants to provide estimates of power-system emissions impacts.

In addition to emissions estimates, the NOPR proposes that applicants provide an exhibit containing system-analysis data.⁶² This exhibit must describe how the transmission project would “[i]mprove system reliability over the long and short term” and “[i]mpact congestion on the applicant’s entire system and neighboring systems.”⁶³ To compare reliability with and without the proposed project, an applicant would model dispatch scenarios, perhaps using one of the models discussed above. Once dispatch scenarios have been determined, it would be simple to calculate emissions using plant-specific emissions factors (if the model does not already provide emissions as an output). The systems-analysis exhibit must also contain power-flow cases for the existing system and proposed project with “generation dispatch scenarios.”⁶⁴ Because generation dispatch scenarios entail predictions about the outputs of specific power plants, the NOPR already obligates applicants to perform modeling that either contains emissions estimates or that could easily be extended to do so. Accordingly, requiring applicants to estimate their proposed projects’ power-system emissions impacts would not materially alter the burden imposed by the NOPR.

⁶¹ *Multi-Pollutant Emissions Standards for Model Years 2027 and Later Light-Duty and Medium-Duty Vehicles*, 88 Fed. Reg. 29184, 29303 (proposed May 5, 2023).

⁶² NOPR, *supra* note 1, at 32.

⁶³ *Id.*

⁶⁴ *Id.*

II. FERC Should Ensure That Applicants' Environmental Justice Reports Contain Robust Environmental Justice Analyses That Appropriately Assess Impacts on Environmental Justice Communities.

FERC unquestionably has both the mandate and authority to consider proposed projects' impacts on environmental justice communities. Below, we briefly review how the law requires FERC to consider this factor bearing on the public interest. FERC's NOPR is commendable in tackling this critical issue from the outset, to ensure that its transmission siting decisions are legally defensible and the product of reasoned decisionmaking.⁶⁵ Additionally, alienating or ignoring impacted stakeholders can result in transmission projects languishing because applicants failed to appreciate the concerns of stakeholders who were left out of important siting conversations and impacts analyses.⁶⁶ Thus, in accord with Executive Orders 14008 and 14096, and FPA's Section 216 mandate that determinations thereunder be consistent with the public interest, the NOPR requires applicants to submit an environmental justice report that "[i]dentif[ies] environmental justice communities within the area of potential project impacts"; "[d]escribe[s] the impacts," including "cumulative impacts"; and "[i]dentif[ies] any disproportionately high and adverse impacts."⁶⁷

However, the NOPR's proposed definition of "environmental justice community" as "any disadvantaged community that has been historically marginalized and overburdened by pollution," which "include[s], but may not be limited to, minority populations, low-income

⁶⁵ See *Vecinos para el Bienestar de la Comunidad Costera v. FERC*, 6 F.4th 1321, 1331 (D.C. Cir. 2021) ("[A] petitioner may challenge an agency's environmental justice analysis as arbitrary and capricious under NEPA and the [Administrative Procedure Act].")

⁶⁶ Cf. *Texas LNG Brownsville LLC*, 183 FERC ¶ 61047, at PP 8, 13 (2023) (Clements, Comm'r, dissenting) ("Failing to allow meaningful public participation [of environmental justice communities] . . . not only violate[s] NEPA, but also undermine[s] the Commission's ability to engage in reasoned decision-making, as it is required to do under the Administrative Procedure Act In failing to meet its statutory and regulatory obligations, the Commission invites litigation . . . , potentially leading to further delay.").

⁶⁷ NOPR, *supra* note 1, at 41. As was true for air pollution, the alternatives report would need to compare these impacts across the proposed transmission project and its alternatives. *Id.* at 46.

populations, or indigenous peoples,”⁶⁸ is overly narrow. FERC’s final rule should more broadly define environmental justice communities to encompass widely recognized burdens beyond pollution.⁶⁹ The Commission should also modify its definition to recognize that environmental justice communities include those communities that lack equal access to environmental benefits. Further, whether or not FERC expands its definition, FERC should require applicants to supplement the NOPR’s anticipated screening methodology for environmental justice communities with one or more tools that better incorporate environmental burdens, thereby more accurately identifying environmental justice communities. Finally, the NOPR provides applicants with scant direction for how to conduct cumulative-impacts analyses, creating risks that applicants will submit inaccurate or perfunctory evaluations, and that projects will be delayed due to insufficient analyses and stakeholder engagement.⁷⁰ FERC should provide applicants with additional guidance for these required analyses.⁷¹

A. To decide whether a transmission project is consistent with the public interest, FERC must consider environmental justice impacts.

In his NOPR concurrence, Commissioner Danly seeks additional information on FERC’s legal authority relating to environmental justice.⁷² The same concern appears in a letter from two Congressional members.⁷³ And, at FERC’s recent Environmental Justice Roundtable, some

⁶⁸ *Id.* at 27, 36.

⁶⁹ Such non-pollution environmental harms include but are not limited to flooding, drought, hurricanes, deforestation, soil erosion, loss of biodiversity, visual eyesores, and high temperatures mediated by the urban-heat-island effect.

⁷⁰ Applicants’ ability to exercise eminent domain authority is contingent on FERC’s determination that they have engaged early and in good faith with stakeholders. 16 U.S.C. § 824p(e)(1).

⁷¹ See Part II.D below.

⁷² NOPR, *supra* note 1, at P 3 (Danly, Comm’r, concurring).

⁷³ Rodgers & Duncan Letter, *supra* note 20, at 2.

Commissioners appeared to question the role that environmental justice can play when FERC evaluates infrastructure permitting applications.⁷⁴

The NOPR’s citation to Section 216’s requirement that transmission projects be “consistent with the public interest”⁷⁵ provides unequivocal support for FERC’s requirement that applicants provide it with environmental justice data upon which it can make this requisite statutory determination. As set out in Part I.A.1 above, FERC’s obligation to find a project accords with the public interest requires it to weigh environmental effects. Courts have repeatedly confirmed that FERC’s public interest standard is a holistic one, requiring the Commission to consider “all factors bearing on the public interest.”⁷⁶ When the Commission does so, it must base “determinations of public interest” in part on “impacts on . . . environmental justice communities.”⁷⁷ Indeed, Acting Chairman Phillips appeared to recognize this obligation at the Environmental Justice Roundtable when confirming that “[e]nvironmental justice has always and will be a part of my public interest determination.”⁷⁸ In short, when FERC scrutinizes whether a transmission project comports with the public interest, this standard calls for the Commission to examine how the project and its alternatives would compound the environmental burdens of overburdened communities. Moreover, doing so increases applicants’ chances of identifying successful transmission sites and allows them the opportunity to hear and address key concerns prior to FERC’s permitting decision.

⁷⁴ *Supra* note 21.

⁷⁵ NOPR, *supra* note 1, at P 65 n.73 (citing 16 U.S.C. § 824p(b)(3)).

⁷⁶ *City of Oberlin v. FERC*, 39 F.4th 719, 722 (D.C. Cir. 2022) (quoting *Atl. Refining Co. v. Pub. Serv. Comm’n of N.Y.*, 360 U.S. 378, 391 (1959)).

⁷⁷ *Vecinos*, 6 F.4th at 1331.

⁷⁸ EJ Roundtable Transcript, *supra* note 21, at 206:21–22 (Statement of Acting Chair Phillips).

B. FERC should expand its definition of “environmental justice community.”

The NOPR proposes to define “environmental justice community” to mean “any disadvantaged community that has been historically marginalized and overburdened by pollution.”⁷⁹ The NOPR then adds: “Environmental justice communities include, but may not be limited to, minority populations, low-income populations, or indigenous peoples.”⁸⁰ FERC solicits comment on this proposed definition,⁸¹ which we provide below, together with our recommended clarifications.

By limiting environmental justice communities to those that are overburdened by pollution, the NOPR articulates an unduly restrictive understanding of environmental justice that threatens to slow or stall proposed projects. While the NOPR cites to Executive Order 14008 for this constricted view,⁸² that order actually provides a far more robust definition. It defines environmental justice communities as “communities that have been historically marginalized and overburdened by pollution *and underinvestment in housing, transportation, water and wastewater infrastructure, and health care.*”⁸³ This executive order further commands that “[a]gencies shall make achieving environmental justice part of their missions by . . . address[ing] the disproportionately high and adverse human health, environmental, climate-related and other cumulative impacts on disadvantaged communities.”⁸⁴ Accordingly, Executive Order 14008 recognizes that environmental justice encompasses all environmental burdens (not just pollution) and underinvestment in environmental benefits.

⁷⁹ NOPR, *supra* note 1, at 27, 36.

⁸⁰ *Id.*

⁸¹ *Id.* at P 32.

⁸² *Id.* at P 30 n.38.

⁸³ Exec. Order No. 14008 § 219, 86 Fed. Reg. 7619, 7629 (Jan. 27, 2021) (emphasis added).

⁸⁴ *Id.*

This more capacious understanding of environmental justice was recently reaffirmed in Executive Order 14096.⁸⁵ In this April 2023 order, President Biden outlined the many ways that a community might be environmentally overburdened, not all of which involve pollution:

[Disproportionate and adverse human health or environmental] burdens arise from a number of causes, including inequitable access to clean water, clean air, natural places, and resources for other basic human health and environmental needs; the concentration of pollution, hazardous waste, and toxic exposures; and underinvestment in affordable housing that is safe and healthy and in basic infrastructure and services to support such housing, including safe drinking water and effective sewage management.⁸⁶

The executive order’s reference to “inequitable access to clean water, clean air, [and] natural places,”⁸⁷ underscores that environmental justice is also a question of unequal distribution of environmental goods. The order further confirms the breadth of this inquiry when it acknowledges that “[a]chieving this [environmental justice] vision will also require improving equitable access to . . . all of the benefits provided by nature.”⁸⁸ Indeed, Executive Order 14096 provides a definition of “environmental justice” reflecting the federal government’s understanding that “the just treatment and meaningful involvement of all people” means that they should be: (1) “[be] fully protected from disproportionate and adverse human health and environmental effects (including risks) and hazards, including those related to climate change, the cumulative impacts of environmental and other burdens, and the legacy of racism or other structural or systemic barriers” and (2) “have equitable access to a healthy, sustainable, and resilient environment.”⁸⁹

⁸⁵ Exec. Order No. 14096, 88 Fed. Reg. 25251 (Apr. 21, 2023).

⁸⁶ *Id.* § 1, 88 Fed. Reg. at 25252.

⁸⁷ *Id.*

⁸⁸ *Id.* § 1, 88 Fed. Reg. at 25251.

⁸⁹ *Id.* § 2, 88 Fed. Reg. at 25253.

EPA’s definition of “environmental justice” comports with Executive Order 14096’s definition. EPA defines “environmental justice” as “[t]he fair treatment and meaningful involvement of all people regardless of race, color, culture, national origin, income, and educational levels with respect to the development, implementation, and enforcement of protective environmental laws, regulations, and policies.”⁹⁰ EPA then defines “fair treatment” to include “[t]he principle that no group of people . . . should bear a disproportionate share of . . . negative environmental consequences” and further notes that “EPA has expanded the concept of fair treatment to include not only consideration of how burdens are distributed across all populations, but the distribution of benefits as well.”⁹¹ Relatedly, EPA defines an “overburdened community” to mean “[m]inority, low-income, tribal, or indigenous populations or geographic locations in the United States that potentially experience disproportionate environmental harms and risks,” which “may be attributable to an accumulation of negative *or lack of positive* environmental, health, economic, or social conditions within these populations or places.”⁹²

As evidenced by these existing, authoritative definitions, FERC’s unduly constrained definition of “environmental justice community” must be amended to include those communities disproportionately impacted by pollution *and* non-pollution environmental burdens (e.g., flooding) *and* lack of access to environmental benefits (e.g., green space). And, as set out above, in order for FERC to assist in our nation’s critical need to get transmission constructed at a rapid pace and at the needed scale,⁹³ it must provide applicants with a roadmap that avoids existing obstacles to success, such as failing to properly identify and assess impacts to key stakeholders.

⁹⁰ *EJ 2020 Glossary*, ENV’T PROT. AGENCY, <https://perma.cc/7EQ7-V5CV>.

⁹¹ *Id.*

⁹² *Id.* (emphasis added).

⁹³ NIETC Notice of Intent, *supra* note 7, at 5–6.

By omitting key stakeholders, FERC’s current definition of environmental justice communities creates legal risk for applicants that may delay transmission projects.

C. FERC should require applicants to employ one or more supplemental tools that include environmental indicators when identifying environmental justice communities.

The NOPR articulates FERC’s methodology for identifying environmental justice communities (its instructions on how to operationalize FERC’s definition of “environmental justice community”), and specifies that applicants should use it when identifying these communities in their environmental justice and alternatives reports.⁹⁴ Under FERC’s approach, a census block group qualifies if more than 50% of the population of the block group is minorities; the minority population of the block group is at least 10% higher than the minority population of the county (e.g., if the county has a minority population of 40%, the block group would need to have a minority population of 44% or greater); or the percentage of low-income people in the block group is greater than or equal to that of the county.⁹⁵

By using income and race as the only proxies for historical marginalization and pollution burden, FERC’s methodology omits certain disadvantaged communities that should satisfy FERC’s proposed definition of an environmental justice community. FERC’s current methodology would miss an even greater number of environmental justice communities that must be included under an appropriately broadened definition. For this reason, the Commission should require applicants to supplement FERC’s demographics-only methodology with one or more screening tools that incorporate additional proxies, such as proximity to pollution. The Commission should consider the supplemental screening tools described below, including our non-exhaustive descriptions of their strengths and weaknesses. Also, irrespective of which

⁹⁴ NOPR, *supra* note 1, at P 30 & n.40, P 65 & n.79.

⁹⁵ *Id.* at 30 n.40.

combination of screening tools FERC ultimately selects and whether FERC corrects its definition of “environmental justice community,” the Commission should establish a mechanism for communities to self-identify as environmental justice communities.

1. Environmental Justice Screening and Mapping Tool

The Environmental Justice Screening and Mapping Tool (EJScreen) is EPA’s environmental justice mapping tool that allows users to visualize environmental indicators, socioeconomic indicators, and combinations of the two.⁹⁶ The 12 environmental indicators are (1) annual average PM_{2.5}, (2) average summer ozone, (3) diesel particulate matter, (4) lifetime air toxics cancer risk, (5) air toxics respiratory hazard index (i.e., the ratio of exposure concentration to a health-based reference concentration), (6) annual average daily traffic, (7) lead paint as indicated by the percentage of houses built before 1960, (8) proximity to superfund sites, (9) proximity to sites with chemical-accident-management plans, (10) proximity to hazardous-waste facilities, (11) proximity to underground storage tanks and leaking underground storage tanks, and (12) concentrations of toxics from wastewater discharge.⁹⁷

EJScreen takes these dozen environmental indicators, and transforms them into a dozen EJ Indexes that quantify environmental justice concerns and that could allow applicants to identify environmental justice communities.⁹⁸ First, for each block group, EJScreen computes a score for every environmental indicator that reflects exposure or proximity to that environmental burden, relative to other block groups.⁹⁹ For example, a block group’s PM_{2.5} indicator is a

⁹⁶ See *EJScreen: Environmental Justice Screening and Mapping Tool*, ENV’T. PROT. AGENCY, <https://www.epa.gov/ejscreen> (last visited May 16, 2023).

⁹⁷ ENV’T. PROT. AGENCY, ENVIRONMENTAL JUSTICE MAPPING AND SCREENING TOOL: EJSCEEN TECHNICAL DOCUMENTATION 12–23 (2022), <https://perma.cc/X4Y5-8S7M> [hereinafter EJSCEEN TECHNICAL DOCUMENTATION].

⁹⁸ See *id.* at 29–30.

⁹⁹ *Id.* at 29.

percentile from 0% to 100% that captures how the raw value of the ambient PM_{2.5} compares to the raw values in other block groups, such that the median block group for each indicator receives a percentile of 50%.¹⁰⁰ Then, for each environmental indicator score, EJScreen multiplies the block group's percentile for that indicator by the average of the percentages of people of color and low-income people in that block group to get a "raw" EJ Index score for that indicator.¹⁰¹ The raw score is not the final EJ Index: Raw scores are then converted into a percentile relative to other block groups, which is the value ultimately displayed in EJScreen. If a block group has an EJ Index at the 80th percentile for PM_{2.5}, the product of the block group's environmental indicator percentile for PM_{2.5} multiplied by the average of the percentages of people of color and low-income people is greater than the corresponding products for 79% of block groups.

EJScreen also calculates a dozen Supplemental Indexes, which, like the EJ Indexes, also capture a combination of socioeconomic and environmental data to quantify environmental justice concerns.¹⁰² The difference between the Supplemental Indexes and the EJ Indexes is that, instead of using the average of the percentages of people of color and low-income people, the Supplemental Indexes use the average of four socioeconomic indicators and one health indicator.¹⁰³ These five indicators are the percentages of people who are low income, are unemployed, speak limited English, have less than a high school education, and have a low life expectancy.¹⁰⁴ If a block group has a Supplemental Index at the 80th percentile for PM_{2.5}, the product of the block group's environmental indicator percentile for PM_{2.5} multiplied by the

¹⁰⁰ *Id.* at 31.

¹⁰¹ *Id.* at 29.

¹⁰² *Id.* at 30.

¹⁰³ *Id.*

¹⁰⁴ *Id.*

average of the aforementioned five indicators is greater than the corresponding products for 79% of block groups.

A strength of EJScreen is how it uses a combination of environmental factors (all of which relate to pollution) and socioeconomic factors. Using it as a supplemental tool would identify communities that satisfy FERC’s proposed definition of “environmental justice community” (which is focused on historical marginalization combined with pollution burden) but that are missed by the Commission’s current screening methodology, even if FERC does not broaden the definition. Further, the simultaneous availability of the EJ Indexes and the Supplemental Indexes provides users with two complementary perspectives on community-level vulnerability based on different sets of socioeconomic factors.¹⁰⁵ Helpfully, EJScreen also identifies communities at the block-group level, a relatively small unit (usually containing between 600 to 3,000 people) that matches the unit of analysis for FERC’s existing methodology.¹⁰⁶ Using this relatively granular unit of geographic analysis reduces the likelihood that the presence of environmental justice communities would be masked by surrounding communities with different demographic characteristics or environmental burdens.¹⁰⁷

A weakness of EJScreen is that it includes only a limited set of environmental metrics, i.e., the 12 environmental indicators.¹⁰⁸ A community may face disproportionate environmental burdens that are not captured by the tool, such as drinking-water quality or landscape

¹⁰⁵ *See id.* at 29.

¹⁰⁶ *Glossary*, CENSUS BUREAU, <https://perma.cc/ELZ8-FK6R>.

¹⁰⁷ JACK LIENKE ET AL., INST. FOR POL’Y INTEGRITY, MAKING REGULATIONS FAIR HOW COST-BENEFIT ANALYSIS CAN PROMOTE EQUITY AND ADVANCE ENVIRONMENTAL JUSTICE 6–7 (2021) [hereinafter MAKING REGULATIONS FAIR].

¹⁰⁸ *Limitations and Caveats in Using EJScreen*, ENV’T PROT. AGENCY, <https://perma.cc/D3LC-K372>.

degradation.¹⁰⁹ Further, for certain air-quality indicators, EJScreen uses data from census tracts, a larger unit of analysis that generally contains 1,200 to 8,000 people.¹¹⁰ For these indicators, the tool assigns the same value to all block groups that comprise the tract, reducing the block-group-level accuracy for these metrics.¹¹¹ Perhaps most significantly for FERC’s purposes, EJScreen neither provides an overall environmental justice score for each block group nor a threshold beyond which communities should be considered environmental justice communities for the 24 indexes.¹¹² Instead, each block group receives 12 EJ Index scores and 12 Supplemental Index scores (one of each for each environmental indicator), and no block groups are specifically labeled environmental justice communities. If FERC were to adopt EJScreen, it would need to specify one or more conditions that, when satisfied, would cause a block group to be labeled an environmental justice community.

For example, FERC might pick a percentile threshold and declare that any block group that exceeds this threshold for any of the dozen EJ Indexes qualifies as an environmental justice community. Doing so would improve FERC’s methodology by adding environmental proxies while maintaining the Commission’s existing focus on race and income, which are the two socioeconomic factors that feed into the EJ Indexes. The figure below illustrates the block groups that satisfy an EJ Index score threshold of 80% and that are *not* identified by FERC’s current demographics-only methodology. EPA has advised that a score at or above the 80th percentile in any EJ Index signals that a community “should be considered as a potential

¹⁰⁹ *Id.*; Haley Mullen, *Indigenous Environmental Justice and Screening Tools: Lessons Learned from EJSCREEN and Paths Forward for the Climate and Economic Justice Screening Tool* (Apr. 2022) (M.Sc. thesis, University of Michigan School for Environment and Sustainability), <https://perma.cc/3ZFW-8QEY>.

¹¹⁰ *Glossary*, CENSUS BUREAU, <https://perma.cc/ELZ8-FK6R>.

¹¹¹ *Limitations and Caveats in Using EJScreen*, ENV’T PROT. AGENCY, <https://perma.cc/D3LC-K372>.

¹¹² Darya Minovi, *The Promise of Environmental Justice Screening Tools in Maryland and Beyond*, CTR. FOR PROGRESSIVE REFORM (Apr. 20, 2021), <https://perma.cc/TJA3-GTGV>.

candidate for further review.”¹¹³ If an 80% threshold were chosen (i.e., a block group is an environmental justice community if it scores at or above the 80th percentile for any of the 12 EJ Indexes), EJScreen would identify 2,100 block groups that the Commission’s current approach misses. As a point of reference, FERC’s existing methodology identifies 151,537 block groups, so adopting a supplementary 80% EJScreen threshold would identify 2,100 block groups beyond those 151,537. If a more inclusive 70% threshold or a more stringent 90% threshold were used, the number of block groups overlooked by FERC’s current demographics-only approach would be 11,884 and 10 block groups, respectively.

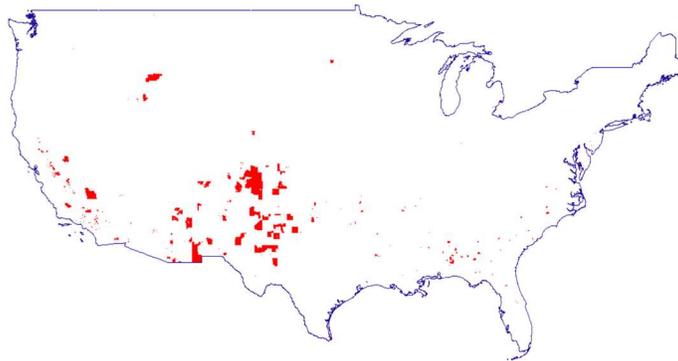


Figure 1: Additional 2,100 Block Groups Identified under 80% EJ Index Standard

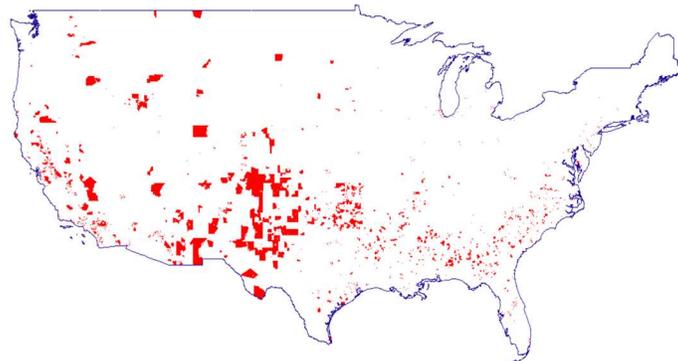


Figure 2: Additional 11,884 Block Groups Identified under 70% EJ Index Standard

¹¹³ EJScreens TECHNICAL DOCUMENTATION, *supra* note 97, at 34; *but see id.* at 35 (“The 80th percentile filter in EJScreen is not intended to designate an area as an ‘EJ community.’ EJScreen provides screening level indicators, not a determination of the existence or absence of EJ concerns.”).

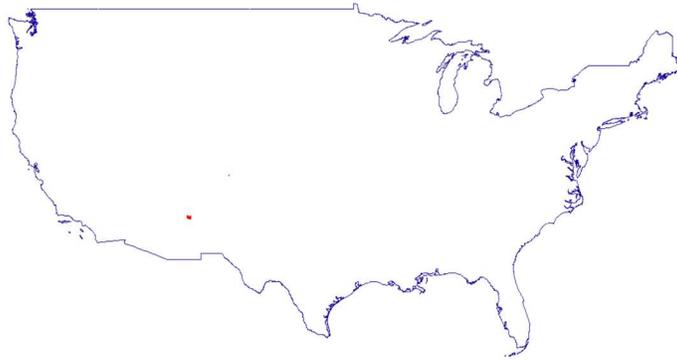


Figure 3: Additional 10 Block Groups Identified under 90% EJ Index Standard

Alternatively, FERC could pick a percentile threshold for the dozen Supplemental Indexes, rather than the EJ Indexes. An advantage of this approach is that the Supplemental Indexes rely on different socioeconomic indicators of vulnerability than FERC's current methodology: unemployment, English ability, education, and life expectancy. (The one exception is income, which is used for both the Supplemental Indexes and FERC's demographics-only methodology.) Compared to using the EJ Indexes as the supplemental metric, this reduced redundancy leads to the identification of more historically marginalized and environmentally overburdened block groups that are missed under FERC's current methodology. At the 80% threshold, the Supplemental Index approach identifies an additional 6,266 block groups that are not among the 151,537 identified under FERC's demographics-only methodology. At the 70% and 90% thresholds, an additional 20,816, and 584 block groups are identified, respectively, beyond the 151,537 block groups.

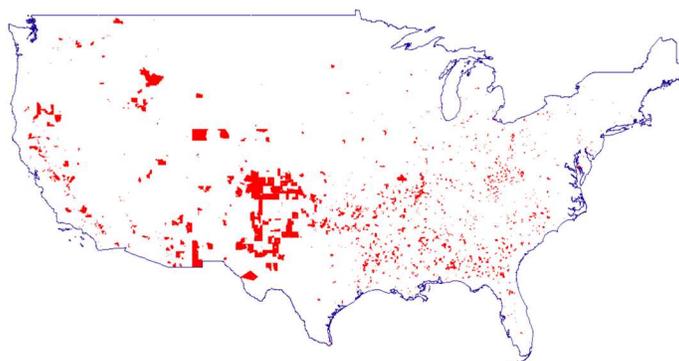


Figure 4: Additional 6,266 Block Groups Identified under 80% Supplemental Index Standard

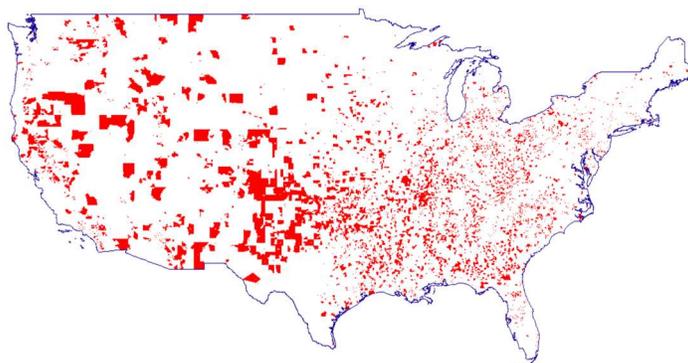


Figure 5: Additional 20,816 Block Groups Identified under 70% Supplemental Index Standard

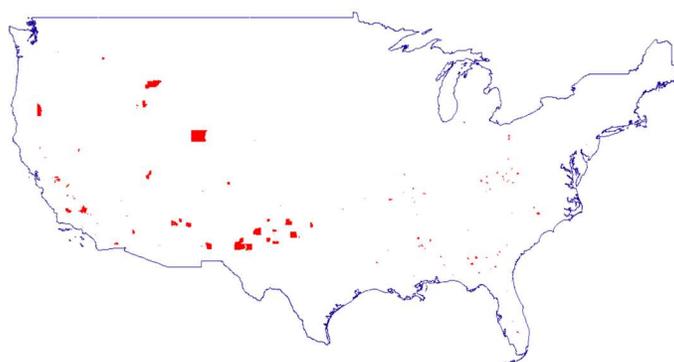


Figure 6: Additional 584 Block Groups Identified under 90% Supplemental Index Standard

Yet another approach would be for FERC to look at the 12 EJ Indexes *and* the 12 Supplemental Indexes. The Commission could pick a threshold (e.g., 80%), and state that any

block group that exceeds this threshold for any of the 24 indexes qualifies as an environmental justice community.

Finally, EPA does not use EJScreen to label block groups as environmental justice communities,¹¹⁴ but EPA’s practice need not be dispositive for FERC. The Commission would not be using the tool in isolation, but rather to supplement its existing demographics-only methodology. Although EPA uses EJScreen as “a useful first step in understanding or highlighting locations that may be candidates for further review,”¹¹⁵ FERC might place special weight on the need for an administrable standard for the Commission and applicants to use without causing undue delay. Finally, if FERC accepts our recommendation below that communities also be given a mechanism to self-identify as environmental justice communities, this possibility would help address the critique that affected communities, not federal agencies, should be the ones to bestow these labels.¹¹⁶

2. Climate & Economic Justice Screening Tool

In Executive Order 14008, President Biden announced “the policy of [his] Administration to secure environmental justice and spur economic opportunity for disadvantaged communities that have been historically marginalized and overburdened by pollution and underinvestment.”¹¹⁷ The order further directed CEQ to develop the Climate & Economic Justice Screening Tool (CEJST) to identify these so-called “disadvantaged communities.”¹¹⁸ The White House has since instructed agencies to use CEJST to the maximum extent possible to identify disadvantaged communities for the Justice40 Initiative, which aims to deliver 40% of benefits from certain

¹¹⁴ *How Does EPA Use EJScreen?*, ENV’T PROT. AGENCY, <https://perma.cc/RZ6U-Q8Y5>.

¹¹⁵ *Purposes and Uses of EJScreen*, ENV’T PROT. AGENCY, <https://perma.cc/NN9Y-VYXT>.

¹¹⁶ See Darya Minovi, *The Promise of Environmental Justice Screening Tools in Maryland and Beyond*, CTR. FOR PROGRESSIVE REFORM (Apr. 20, 2021), <https://perma.cc/TJA3-GTGV>.

¹¹⁷ Exec. Order No. 14008 § 219, 86 Fed. Reg. 7619, 7629 (Jan. 27, 2021).

¹¹⁸ *Id.* § 222(a), 86 Fed. Reg. 7619, 7631.

investments to disadvantaged communities.¹¹⁹ Relevant here, the White House also requests that agencies “encourage use of . . . CEJST” in order “to promote uniformity across the government” with regard to “the identification of communities that are disadvantaged, marginalized, overburdened, and underserved.”¹²⁰

CEJST identifies census tracts as “disadvantaged” if they (1) meet certain thresholds in at least one of the tool’s eight categories of burden; (2) are completely surrounded by disadvantaged tracts and are at or above the 50th percentile for low income; or (3) are on land within the boundaries of a federally recognized Indian tribe.¹²¹ The eight categories of burden are climate change, energy, health, housing, legacy pollution, transportation, waste and wastewater, and workforce development.¹²² To qualify as burdened under one of these eight categories, a tract must satisfy certain combinations of thresholds, typically a combination of environmental and socioeconomic conditions (excluding race):

- **Climate Change:** (1) At or above the 90th percentile for expected agriculture loss rate, expected building loss rate, expected population loss rate, projected flood risk, *or* projected wildfire risk *and* (2) at or above the 65th percentile for low income.
- **Energy:** (1) At or above the 90th percentile for energy cost *or* PM_{2.5} in the air *and* (2) at or above the 65th percentile for low income.
- **Health:** (1) At or above the 90th percentile for asthma, diabetes, heart disease, *or* low life expectancy *and* (2) at or above the 65th percentile for low income.
- **Housing:** (1) At or above the 90th percentile for housing cost, lack of green space, lack of indoor plumbing, *or* lead paint *or* experienced historic underinvestment based on redlining maps created by the federal government’s Home Owners’ Loan Corporation between 1935 and 1940 *and* (2) at or above the 65th percentile for low income.
- **Legacy Pollution:** At or above the 90th percentile for proximity to hazardous waste facilities, proximity to Superfund sites, *or* proximity to Risk Management Plan facilities

¹¹⁹ Memorandum from Shalanda D. Young, Director, Off. of Mgmt. & Budget, et al. to the Heads of Executive Departments and Agencies 1–2, M-23-09 (Jan. 27, 2023), <https://perma.cc/NQ7V-5CW6>.

¹²⁰ *Id.* at 2 n.1.

¹²¹ *Methodology*, COUNCIL ON ENV’T QUALITY, <https://perma.cc/ND9H-6PS6>.

¹²² *Id.*

or have at least one abandoned mine land *or* have at least one Formerly Used Defense Site *and* (2) at or above the 65th percentile for low income.

- **Transportation:** (1) At or above the 90th percentile for diesel particulate matter exposure, transportation barriers, *or* traffic proximity and volume *and* (2) at or above the 65th percentile for low income.
- **Water and Wastewater:** (1) At or above the 90th percentile for underground storage tanks and releases *or* wastewater discharge *and* (2) at or above the 65th percentile for low income.
- **Workforce Development:** (1) At or above the 90th percentile for linguistic isolation, low median income, poverty, *or* unemployment *and* (2) less than 10% of people ages twenty-five or older have a high school education.¹²³

Using this tool, it is possible to see exactly which combination of circumstances causes a tract to be labeled as disadvantaged, as well as whether more than one set of conditions has been satisfied.¹²⁴

An advantage of supplementing FERC’s current methodology with CEJST is that (like EJScreen) it combines environmental and socioeconomic proxies for marginalization and environmental burden, which would bring the Commission’s methodology into better alignment with the NOPR’s proposed definition of “environmental justice community.” And, because CEJST also incorporates certain non-pollution environmental harms and lack of access to some environmental benefits, the tool would be especially valuable for identifying environmental justice communities if FERC were to adopt our proposed broader definition. Additionally, by including all land within the boundaries of federally recognized Indian tribes, CEJST accords with the proposed definition’s attention to indigenous peoples. Compared to EJScreen, CEJST accounts for a wider variety of indicators (e.g., vulnerability to climate change, asthma, lack of green space) that capture more of the ways that a community could be marginalized or

¹²³ *Id.*

¹²⁴ See *Explore the Map*, COUNCIL ON ENV’T QUALITY, <https://screeningtool.geoplatform.gov/en/#3/33.47/-97.5> (last visited May 16, 2023).

environmentally overburdened. Perhaps most importantly, CEQ has already selected the thresholds within CEJST that dictate when a community qualifies as disadvantaged, which would relieve FERC from independently needing to select thresholds.

Environmental justice advocates commonly critique CEJST because it does not use race as a socioeconomic indicator;¹²⁵ however, that issue may be less relevant here because FERC's current methodology already includes race and we are recommending additional metrics. In other words, CEJST would only supplement FERC's current approach. As with EJScreen, CEJST does not provide any overall metric of cumulative burden,¹²⁶ although CEQ suggests that agencies might consider how many different ways that a community qualifies as disadvantaged.¹²⁷ Nor does CEJST capture all conceivable environmental burdens, only those outlined above. Finally, instead of census block groups, CEJST uses census tracts, a relatively large unit of analysis that may mask the existence of smaller environmental justice communities within tracts that are not identified as disadvantaged.¹²⁸ For the same reason, CEJST provides no guidance on which areas within a disadvantaged tract are most burdened.

There are multiple ways that FERC can use (and could require Section 216 applicants to use) CEJST as a supplemental tool. The simplest option would be for the Commission to declare that tracts identified as disadvantaged by CEJST (or the constituent block groups of these tracts) are environmental justice communities. While many tracts identified as disadvantaged by CEJST

¹²⁵ *E.g.*, Robert D. Bullard et al., Comments on the CEQ's Climate and Economic Justice Screening Tool (Apr. 22, 2022), <https://perma.cc/3QDA-VU49> ("It is not clear why race is not being considered since decades of statistical studies . . . show that race has an independent effect on the distribution of environmental burdens from other socioeconomic factors and is indeed the most potent and consistent predictor of where pollution and other environmental burdens are concentrated.").

¹²⁶ Rajat Shrestha et al., *CEQ's Climate and Economic Justice Screening Tool Needs to Consider How Burdens Add Up*, WORLD RES. INST. (Mar. 15, 2023), <https://perma.cc/YF4W-3M4G>.

¹²⁷ COUNCIL ON ENV'T QUALITY, INSTRUCTIONS TO FEDERAL AGENCIES ON USING THE CLIMATE AND ECONOMIC JUSTICE SCREENING TOOL 5 (2023), <https://perma.cc/XX5W-GQWV>.

¹²⁸ MAKING REGULATIONS FAIR, *supra* note 107, at 6–7.

contain one or more of the 151,537 block groups identified by FERC’s existing demographics-only methodology, adopting the CEJST supplemental methodology would in effect capture an additional 8,190 block groups that may satisfy our proposed broader definition of “environmental justice community.”

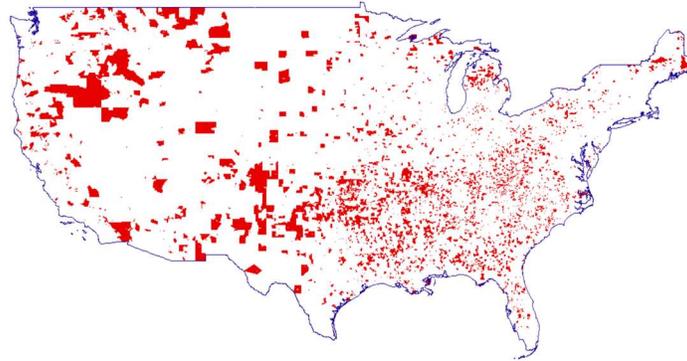


Figure 7: 8,190 Block Groups Identified Using CEJST

Alternatively, if FERC were to maintain its proposed (and inaccurately narrow) definition of “environmental justice community,” the Commission might use CEJST but look at only certain categories of burdens (i.e., those that focus on pollution) that that FERC considers to be most relevant to its proposed definition. The Commission could also select its own burden thresholds within the data categories that CEJST reports, instead of using CEQ’s thresholds.

3. State Tools

Some states have developed their own environmental justice mapping tools.¹²⁹ These tools differ from one another across many dimensions, including: which indicators they include (and whether they include any environmental indicators), whether they combine indicators into one or more composite indexes, and whether any thresholds are used to identify environmental

¹²⁹ See *Additional Resources and Tools Related to EJScreen*, ENV’T PROT. AGENCY, <https://perma.cc/9T96-W7CR>.

justice communities.¹³⁰ For example, California’s CalEnviroScreen assigns to census tracts an overall CalEnviroScreen Score that equals the product of a Pollution Burden score multiplied by a Population Characteristics score.¹³¹ The tracts with the highest 25% of scores are labeled as disadvantaged for purposes of receiving proceeds from the state’s cap-and-trade program.¹³²

The advantages and drawbacks of each of the myriad state mapping tools are beyond the scope of these comments.¹³³ And, because these tools are geographically limited to single states, it would be impossible to identify all of the environmental justice communities affected by an interstate project using only one state’s tool. Still, as FERC considers how to supplement its existing methodology, it should weigh whether it would be appropriate to use these state tools in addition to or in lieu of EJScreen and CEJST, particularly in cases where FERC’s backstop siting arises against an existing state administrative record for the project.

4. Self-Identification Mechanism

Although screening tools are helpful in identifying communities facing intersecting environmental, racial, economic, and health burdens, no tool can comprehensively reflect the circumstances of any given community, especially when data are systematically lacking or communities face burdens that cannot be easily quantified.¹³⁴ Measurement inaccuracies,

¹³⁰ DAVID KONISKY ET AL., MAPPING FOR ENVIRONMENTAL JUSTICE: AN ANALYSIS OF STATE LEVEL TOOLS 9–11, 16–18 (2021), <https://perma.cc/6DTZ-V47M>.

¹³¹ CA. OFF. OF ENV’T HEALTH HAZARD ASSESSMENT & CA. ENV’T PROT. AGENCY, CALENVIROSCREEN 4.0 at 22 (2021), <https://perma.cc/U4QC-TVY6>.

¹³² *SB 535 Disadvantaged Communities*, CA. OFF. OF ENV’T HEALTH HAZARD ASSESSMENT, <https://oehha.ca.gov/calenviroscreen/sb535> (last visited May 16, 2023). Tracts are also labeled as disadvantaged if they were “previously identified in the top 25% in CalEnviroScreen 3.0,” have “high amounts of pollution and low populations” or are “federally recognized tribal areas as identified by the Census in the 2021 American Indian Areas Related National Geodatabase.” *SB 535 Disadvantaged Communities (2022 Update)*, CA. ENV’T PROT. AGENCY, <https://experience.arcgis.com/experience/1c21c53da8de48f1b946f3402fbae55c/page/SB-535-Disadvantaged-Communities/> (last visited May 16, 2023).

¹³³ See generally CHITRA BALAKRISHNAN ET AL., URB. INST. (2022), <https://perma.cc/JT2E-4SU7>.

¹³⁴ See James Sadd et al., *The Truth, the Whole Truth, and Nothing but the Ground-Truth: Methods to Advance Environmental Justice and Researcher-Community Partnerships*, 41 HEALTH EDUC. BEHAV. 281, 288 (2014).

especially in areas with smaller populations, may not reflect local-level realities if taken at face value.¹³⁵ As such, data screening tools should not be the final arbiter of whether an applicant or FERC identifies a community as falling within a circumscribed regulatory definition of an environmental justice community. Instead, FERC should consider allowing communities to self-identify as an environmental justice community, as the innovative Illinois Solar for All initiative does.¹³⁶ The Solar for All program allows communities to use a variety of data sources to demonstrate eligibility, including expert testimony, community organizing, and news articles.¹³⁷ Historical events are also eligible data sources, which is important given that many existing screening tools are limited in their ability to assess prior environmental damage. Allowing communities to self-identify, or, at the very least, to petition for their designations, ensures that communities are not excluded because the existing identification tools or methods are unable to capture localized harms.

In the context of Section 216, this could mean establishing a procedure in which communities could petition FERC to be considered environmental justice communities, notwithstanding the fact that they would not be identified as such using the Commission's chosen methodology or blend of tools. FERC can clearly provide a process for communities to self-identify by signaling this opportunity in its existing notice requirements.¹³⁸ For example, a community might submit evidence that census boundaries do not accurately demarcate the community's borders and that, if the correct boundary line were used, the community would in fact satisfy FERC's criteria. Or a community might submit evidence of a disproportionate

¹³⁵ CORIANNE PAYTON SCALLY, ET AL., URB. INST., IN SEARCH OF "GOOD" RURAL DATA 14–31 (2020), <https://perma.cc/3L2M-84MS>.

¹³⁶ See 20 Ill. Comp. Stat. Ann. 3855/1-56.

¹³⁷ *ILSFA Environmental Justice Community Self-Designation Application*, ILL. POWER AGENCY, <https://www.illinoisfa.com/designate-your-community/> (last visited May 16, 2023).

¹³⁸ See NOPR, *supra* note 1, at 28–29.

environmental burden that is not reflected in whatever screening tools that FERC adopts. It would be most appropriate for FERC, not the applicant, to adjudicate whether a community should be considered an environmental justice community in light of the submitted evidence. Casting the Commission’s net broadly early in the siting process can help transmission get built by ensuring that such communities are identified or have the option to self-identify, and thus the resulting opportunity to engage with both the applicant and FERC.

D. FERC should provide applicants with additional guidance on how to conduct cumulative-impacts analyses.

The NOPR provides that applicants’ environmental justice and alternatives reports must discuss “any cumulative impacts on environmental justice communities, regarding resources affected by the project, including whether any cumulative impacts would be disproportionately high and adverse.”¹³⁹ The NOPR provides little guidance on how to conduct such a cumulative-impacts analysis, simply stating that applicants should “[d]escribe the proposed project’s impacts in relation to the aggregation of past, present, and reasonably foreseeable actions taken by Federal or non-Federal entities, and the environmental justice communities’ capacity to tolerate additional impacts.”¹⁴⁰ Given the recurring problems with FERC’s own treatment of cumulative impacts,¹⁴¹ additional guidance for applicants is necessary to ensure that this aspect of the environmental justice and alternatives reports does not become a mere box-checking exercise for applicants. FERC should define key terms for applicants, point applicants to authoritative resources or principles for performing this type of analysis, and emphasize that applicants’

¹³⁹ *Id.* at 41.

¹⁴⁰ *Id.*

¹⁴¹ LAURA A. FIGUEROA & SARAH LADIN, INST. FOR POL’Y INTEGRITY, THE PUBLIC INTEREST REVIEW FOR LNG-RELATED AUTHORIZATIONS 49–50 (2022), <https://perma.cc/G93W-6K9F> [hereinafter LNG PUBLIC INTEREST REVIEW].

reports should fully consider health harms from air pollution even when National Ambient Air Quality Standards would not be violated.

1. FERC should define key terms.

A first step would be for FERC to adopt EPA’s Office of Research and Development’s (EPA ORD) definitions of “cumulative impacts,” “cumulative impact assessment,” and “stressor” and to specifically require that applicants perform a “cumulative impact assessment”.¹⁴²

- Cumulative Impacts are defined as the totality of exposures to combinations of chemical and nonchemical stressors and their effects on health, well-being, and quality of life outcomes. Cumulative impacts include contemporary exposures to multiple stressors as well as exposures throughout a person’s lifetime. They are influenced by the distribution of stressors and encompass both direct and indirect effects to people through impacts on resources and the environment. Cumulative impacts can be considered in the context of individuals, geographically defined communities, or definable population groups. Cumulative impacts characterize the potential state of vulnerability or resilience of a community.¹⁴³
- Cumulative Impact Assessment is defined as a process of evaluating both quantitative and qualitative data representing cumulative impacts to inform a decision. Cumulative impact assessment requires a systematic approach to characterize the combined effects from exposures to both chemical and non-chemical stressors over time across the affected population group or community. It evaluates how stressors from the built, natural, and social environments affect groups of people in both positive and negative ways. The posited elements of a cumulative impact assessment include community role throughout the assessment, such as identifying problems and potential intervention decision points to improve community health and well-being; combined impacts across multiple chemical and non-chemical stressors; multiple sources of stressors from the built, natural, and social environments; multiple exposure pathways across media; community vulnerability, sensitivity, adaptability, and resilience; exposures to stressors in the relevant past and future, especially during vulnerable lifestages; distribution of environmental burdens and benefits; individual variability and behaviors; health and well-being benefits/mitigating

¹⁴² While the applicants’ analysis provides a starting point, it remains FERC’s obligation to assess whether any particular project is consistent with the public interest.

¹⁴³ ENV’T PROT. AGENCY OFF. OF RSCH. & DEV., CUMULATIVE IMPACTS RESEARCH: RECOMMENDATIONS FOR EPA’S OFFICE OF RESEARCH AND DEVELOPMENT 4–5 (2022) [hereinafter EPA ORD CUMULATIVE IMPACTS RECOMMENDATIONS], <https://perma.cc/9BE8-TAB2>; *see also id.* at 5 nn.5–7 (defining “health,” “well-being,” and “quality of life”).

factors; uncertainty and variability associated with the data and information; and an approach for how to integrate data and information to assess cumulative impacts.¹⁴⁴

- Stressors are defined as any physical, chemical, social, or biological entity that can induce a change (either positive or negative) in health, well-being, and quality of life (either now or into the future).¹⁴⁵ Chemical stressors are defined as exogenous environmental compounds.¹⁴⁶ Chemical stressors change or damage living organisms or ecosystems and are released into the environment by waste, emissions, pesticide use, or uses of formulated compounds like pharmaceuticals.¹⁴⁷ Non-chemical stressors are factors found in the built, natural, and social environments including physical factors such as noise, temperature, and humidity and psychosocial factors (e.g., poor diet, smoking, and illicit drug use).¹⁴⁸

EPA ORD developed these definitions through research into previous definitions, workshops and listening sessions, internal discussions, and input from EPA's Science Advisory Board.¹⁴⁹

Adopting them would provide greater clarity as to the scope and depth of the required cumulative-impacts analysis while increasing the likelihood that applicants accurately assess cumulative impacts to environmental justice communities from proposed projects and their alternatives, to provide FERC with a sound basis on which to conduct its own public interest analysis.

2. FERC should identify authoritative resources or principles.

FERC should also direct applicants to specific sources of federal guidance outlining how to conduct a cumulative-impacts analysis, or the Commission should distill the lessons from these documents and write its own guidelines to ensure that it has a robust and legally defensible administrative record on which to base its permitting decisions. Below we review several

¹⁴⁴ *Id.* at 5.

¹⁴⁵ *Id.* at 1 n.3.

¹⁴⁶ *Id.* at 1 n.1.

¹⁴⁷ *Id.*

¹⁴⁸ *Id.* at 1 n.2.

¹⁴⁹ *Id.* at 4.

existing tools that FERC could direct applicants to deploy in conducting legally sufficient cumulative impacts analyses.¹⁵⁰

EPA ORD's *Cumulative Impacts Research: Recommendations for EPA's Office of Research and Development* lists key questions for the development of a cumulative-impacts analysis, including "What is the baseline condition for the identified population/community? This should include socioeconomic, environmental, and health data as available, including information on pre-existing vulnerabilities and historical exposures."; "What are the impacts (positive or negative) of the decision?"; and "Does the decision increase or decrease identified racial/ethnic and income gaps in health and environmental impacts/risks? If so, how much?"¹⁵¹ EPA's *Technical Guidance for Assessing Environmental Justice in Regulatory Analysis* addresses the simultaneous need to assess how environmental justice communities already face higher exposures to given environmental stressors and how members of these communities may also be more susceptible to adverse outcomes given vulnerabilities caused by other stressors.¹⁵²

Most comprehensively, EPA's *Framework for Cumulative Risk Assessment* provides a detailed walkthrough of the three main phases of a cumulative-risk assessment: planning, scoping, and problem formulation; analysis; and risk characterization.¹⁵³ In brief:

In the first phase, a team of risk managers, risk assessors, and other stakeholders establishes the goals, breadth, depth, and focus of the assessment. The end products of this phase are a conceptual model and an analysis plan. The conceptual model establishes the stressors to be evaluated, the health or environmental effects to be evaluated, and the relationships among various stressor exposures and potential effects. The analysis plan lays out the data needed, the approach to be taken, and the types of results expected during the analysis phase.

¹⁵⁰ While NEPA requires cumulative impacts analyses, 40 C.F.R. § 1508.1(g)(3), Section 216's obligation runs to FERC to ensure that it is only permitting projects consistent with the public interest. FERC cannot make such a determination for a transmission project without examining cumulative impacts.

¹⁵¹ *Id.* at 10–11.

¹⁵² ENV'T PROT. AGENCY, TECHNICAL GUIDANCE FOR ASSESSING ENVIRONMENTAL JUSTICE IN REGULATORY ANALYSIS 15–19, 23–24 (2016), <https://perma.cc/C964-NH9N> [hereinafter EPA EJ TECHNICAL GUIDANCE].

¹⁵³ ENV'T PROT. AGENCY, FRAMEWORK FOR CUMULATIVE RISK ASSESSMENT 14–71 (2003), <https://perma.cc/64W7-T6HL>.

The analysis phase includes developing profiles of exposure, considering interactions (if any) among stressors, and predicting risks to the population or populations assessed. It is in this phase that difficult technical issues such as the toxicity of mixtures, the vulnerability of populations, or the interactions among stressors that may be chemical or nonchemical are addressed and, hopefully resolved. The end product of this phase is an analysis of the risks associated with the multiple stressors to which the study population or populations are exposed.

The third phase, risk characterization (interpretation), puts the risk estimates into perspective in terms of their significance, the reliability of the estimates, and the overall confidence in the assessment. It is also in this phase that an evaluation is made of whether the assessment met the objectives and goals set forth in phase one.¹⁵⁴

Although there are subtle distinctions between cumulative-risk assessment and cumulative-impacts analysis,¹⁵⁵ EPA nonetheless advises that this document “provides guidance on planning and undertaking an assessment of cumulative impacts when evaluating the range of both chemical and non-chemical stressors that may be relevant to potential EJ concerns.”¹⁵⁶ FERC should consider instructing applicants to use these guidelines, or provide its own.

3. Sub-National Ambient Air Quality Standards air pollution impacts should be considered.

Finally, FERC should explicitly delineate that cumulative-impacts analyses include increased exposure to criteria pollutants (i.e., PM, ozone, carbon monoxide, lead, SO₂, and NO_x), even when total emissions remain below the Clean Air Act’s National Ambient Air Quality Standards (NAAQS). The Commission has used overall compliance with NAAQS to

¹⁵⁴ *Id.* at 18.

¹⁵⁵ EPA ORD CUMULATIVE IMPACTS RECOMMENDATIONS, *supra* note 143, at vii; *see also* ENV’T PROT. AGENCY SCI. ADVISORY BD., CONSULTATION ON CUMULATIVE IMPACTS ASSESSMENTS (2022), https://sab.epa.gov/ords/sab/f?p=100:18:9230939263227:::RP,18:P18_ID:2615#doc (last visited May 16, 2023) (scroll to “Final Report(s)”) (containing each member of the Science Advisory Board’s answers to question 2 about the distinction between cumulative impact assessment and cumulative risk assessment).

¹⁵⁶ EPA EJ TECHNICAL GUIDANCE, *supra* note 152, at 18.

disregard projects' air-pollution impacts.¹⁵⁷ Although the D.C. Circuit declined to set aside a previous NEPA analysis from FERC that employed this reasoning,¹⁵⁸ this approach is far from a best practice and conflicts with how EPA treats changes in emissions levels below the NAAQS.¹⁵⁹

EPA has consistently recognized that criteria pollutants are non-threshold pollutants, meaning there is no safe level of exposure.¹⁶⁰ Further, under administrations of both parties, EPA has calculated the potential health benefits of sub-NAAQS reductions in criteria pollutants.¹⁶¹ For example, in EPA's final regulatory impact analysis for the Mercury and Air Toxics Standards in 2011, EPA stated that "[i]t is important to emphasize that NAAQS are not set at a level of zero risk" and "[a] large fraction of the PM_{2.5}-related benefits associated with this rule occur below the level of the [NAAQS]."¹⁶² Sub-NAAQS changes in criteria pollutants are especially significant for certain sensitive populations that may be more prevalent in environmental justice communities, such as children with asthma.¹⁶³ Any cumulative-impacts analysis should seriously consider the health impacts that environmental justice communities will face under higher levels of criteria pollutants (including from power-system emissions impacts) that do not exceed the NAAQS.

¹⁵⁷ *E.g.*, *Rio Grande LNG, LLC*, 183 FERC ¶ 61046, at PP 151 (2023) ("Both the Texas LNG and Rio Grande LNG Terminals would be in compliance with the NAAQS during operations and NAAQS are designated to protect sensitive populations. The operation of the LNG terminal projects when combined with the other projects within the cumulative geographic scope for air quality would not cause or contribute to a potential exceedance of the NAAQS on a regional or localized basis, and therefore would not result in significant adverse air quality impacts on environmental justice communities in the region." (footnotes omitted)).

¹⁵⁸ *Sierra Club*, 867 F.3d at 1370 n.7. Moreover, since the FPA itself requires an "all factors bearing on the public interest" approach, such failures may violate the FPA itself, notwithstanding NEPA's disclosure requirements.

¹⁵⁹ Kimberly M. Castle & Richard L. Revesz, *Environmental Standards, Thresholds, and the Next Battleground of Climate Change Regulations*, 103 MINN. L. REV. 1349, 1383–1397, 1409–1413 (2019).

¹⁶⁰ *Id.* at 1391.

¹⁶¹ *Id.* at 1391–40.

¹⁶² ENV'T PROT. AGENCY, EPA-452/R-11-011, REGULATORY IMPACT ANALYSIS FOR THE FINAL MERCURY AND AIR TOXICS STANDARDS at ES-4 (2011), <https://perma.cc/7E82-KCNC>.

¹⁶³ LNG PUBLIC INTEREST REVIEW, *supra* note 141, at 48.

III. Conclusion

For the reasons described herein, FERC’s obligations under Section 216 require it to analyze the power-sector emissions impacts and environmental justice impacts of proposed transmission projects and their alternatives. Without this information, the Commission cannot accurately analyze whether any project is consistent with the public interest and other Section 216 criteria. Further, these data are essential to FERC’s NEPA analysis that will underlie any Section 216 permits. Accordingly, requiring applicants to estimate power-system emissions impacts, accurately identify environmental justice communities, and sufficiently analyze cumulative impacts to these communities will help the Commission to execute its legal obligations. In turn, this will help ensure that projects consistent with the public interest are built quickly, rather than being bogged down in litigation.

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Dated: May 17, 2023