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To: Nuclear Regulatory Commission
Submitted By: Institute for Policy Integrity at New York University School of Law
Subject: Providing for Meaningful Participation by Environmental Justice Communities (NRC-2021-0137)

The Institute for Policy Integrity at New York University School of Law (Policy Integrity)¹ respectfully submits the following comments to the Nuclear Regulatory Commission (NRC or the Commission) in response to the NRC’s July 9, 2021 Request for Comment.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. As the Commission reviews its environmental justice programs, policies, and activities, the NRC should follow and learn from the Federal Energy Regulatory Commission’s (FERC) activities related to its Office of Public Participation and the Notice of Inquiry regarding its natural gas infrastructure certification policy statement. In both dockets, FERC has received significant comment on how to facilitate meaningful public participation by environmental justice communities in a variety of regulatory activities; and improve its environmental justice analysis under the National Environmental Policy Act (NEPA) and the Natural Gas Act (NGA). Comments in these dockets may be equally applicable to the NRC’s licensing and regulatory activities and should be reviewed by the Commission. The NRC should use this information, as well as the additional recommendations made below, to inform how it can improve its programs, policies and activities.

The NRC has solicited comment from interested parties on how it can improve its consideration of environmental justice in its licensing and regulatory activities. As part of its

¹ This document does not purport to represent the views, if any, of New York University School of Law.

² Systematic Assessment for How the NRC Addresses Environmental Justice in Its Programs, Policies and Activities, 86 Fed. Reg. 36,307 (July 8, 2021) [hereinafter NRC Request for Comment].

evaluation of how the agency addresses environmental impacts, the Commission should learn from other agencies and work to facilitate meaningful participation by environmental justice communities and the public more broadly. Beyond recommending that the NRC learn from FERC’s ongoing proceedings, these comments highlight the potential benefits of improved public participation by environmental justice communities and identify best practices that the Commission should adopt. Additionally, these comments recommend that the Commission consider analytical tools that allow the Commission to more accurately assess and weigh environmental justice implications of its actions.

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I. The Commission Should Learn from FERC’s Proceedings on Its Office of Public Participation and Natural Gas Infrastructure Certification Policy Statement

Like the NRC, many other agencies are currently undergoing a review of their policies and activities related to environmental justice. FERC is one such agency with two significant proceedings that emphasize environmental justice considerations. First, FERC has begun to build its Office of Public Participation, which will assist the public with intervening and participating in FERC proceedings.³ As part of this effort, FERC held numerous listening sessions for public comment,⁴ organized a workshop regarding the structure and mission of the Office of Public Participation,⁵ and solicited written comment on how to structure the Office of Public Participation.⁶ FERC also submitted a report to Congress on its progress.⁷ Second, FERC has reopened a Notice of Inquiry regarding its natural gas infrastructure certification policy. As part of this proceeding, FERC specifically solicited comment on its consideration of effects on environmental justice communities and how it could improve its environmental justice assessment, mitigate impacts, and ensure meaningful participation by environmental justice communities.⁸ Like the NRC, FERC is an independent agency not bound by the executive orders on environmental justice consideration under NEPA.⁹ However, also like the NRC, FERC does consistently conduct environmental justice analyses in assessing whether to grant a certificate.

Given the extensive work stakeholders have undertaken to assist FERC in improving participation and environmental justice assessments, and given the clear parallels between NRC and FERC activities, the Commission should follow these dockets to learn from the comments submitted and any action taken by FERC. Furthermore, concerns raised at the listening sessions

³ FED. ENERGY REGUL. COMM’N, REPORT TO CONGRESS ON THE OFFICE OF PUBLIC PARTICIPATION 4 (2021) [hereinafter FERC OPP REPORT] (attached).

⁴ See The Office of Public Participation; Notice of Virtual Listening Sessions and a Public Comment Period, 86 Fed. Reg. 13,893 (Mar. 11, 2021) [hereinafter March OPP Notice]; The Office of Public Participation; Notice of Virtual Spanish Listening Session, 86 Fed. Reg. 20,683 (Apr. 21, 2021).

⁵ See The Office of Public Participation; Notice of Workshop and Request for Panelists, 86 Fed. Reg. 11,764 (Feb. 26, 2021).

⁶ See March OPP Notice, 86 Fed. Reg. at 13,893.

⁷ See generally FERC OPP REPORT, *supra* note 3.

⁸ See Certification of New Interstate Natural Gas Facilities, 86 Fed. Reg. 11,268, 11,273–74 (Feb. 24, 2021).

⁹ Executive Order 12,898 only requested, rather than directed, independent agencies like the NRC and FERC comply. Exec. Order No. 12,898, § 6-604, 59 Fed. Reg. 7629 (Feb. 11, 1994). Likewise, President Biden’s recent executive order only “strongly encouraged” independent agencies to comply. Exec. Order No. 13,985, § 11(c), 86 Fed. Reg. 7009 (Jan. 20, 2021).

held by the Commission in August 2021 echoed those brought to FERC. As FERC works to address those comments, the NRC may want to take similar action. As it reviews its own policies and activities, the Commission should learn from and build upon any action taken by FERC.

A. The Commission Should Look to FERC’s Proceedings on Its Office of Public Participation for Guidance on Facilitating Meaningful Participation by Environmental Justice Communities

The Commission should review comments submitted regarding the Office of Public Participation and FERC’s report to Congress. The Office of Public Participation is intended to help members of the public engage in FERC’s proceedings in a meaningful way.¹⁰ While the new office will be responsible for helping the broader public engage, it will also be particularly useful for environmental justice communities, which may lack the resources and technical expertise to effectively participate. The proceedings surrounding the formation of the new office can provide the NRC with insight into the problems environmental justice communities face when participating in complex and highly technical proceedings, as well as provide strategies to facilitate their engagement.

FERC held numerous listening sessions in both English and Spanish at various times of the day to allow the public to provide oral comment. Over 115 comments were received through these sessions.¹¹ FERC also hosted a workshop, where a variety of stakeholders were able to provide information on the obstacles the public, including environmental justice communities, faces and best practices for enhancing participation. Staff from other agencies who are charged with overseeing environmental justice activities participated, including Shalanda Baker, the Deputy Director for Energy Justice at the Department of Energy, and Matthew Tejada, the Director of the Office of Environmental Justice at the Environmental Protection Agency.¹² The Commission should also consider reaching out to these agency leaders for assistance in reviewing its own policies and activities. After the conference, FERC received over 125 written comments.¹³ The events and comments, including detailed discussion of the comments raised by

¹⁰ FERC OPP REPORT, *supra* note 3, at 5.

¹¹ *Id.* at 5.

¹² See Transcript of Workshop on the Creation of the Office of Public Participation at 126–63, *Office of Public Participation*, Docket No. AD21-9 (Apr. 16, 2021) (transcribing Panel 3 on environmental and energy justice, including remarks from these panelists and their recommendations to FERC).

¹³ FERC OPP REPORT, *supra* note 3, at 5.

stakeholders, were summarized in FERC’s report to Congress.¹⁴ Policy Integrity submitted comments on the Office of Public Participation; aspects of those comments are discussed below.¹⁵ FERC also recently hosted another workshop regarding technical assistance for electricity proceedings based on comments received, and will continue to host further workshops in the future.¹⁶

This proceeding can serve as a starting point for the Commission. The NRC’s functions and responsibilities are similar to FERC’s, creating similar issues for environmental justice communities. This was clear from the NRC’s own environmental justice webinars, where commenters raised many of the same concerns that were heard in FERC’s sessions. Commenters discussed problems with access to broadband internet, difficulty using the NRC’s online library, lack of notice of Commission activities (including the webinar itself), the timing of events (that is, concerns over hosting an event in the middle of the workday), and more.¹⁷ These are all issues that were discussed in FERC’s listening session and in comments.¹⁸ Solutions that FERC implements might be useful to inform the Commission’s own solutions.

Additionally, like FERC’s activities, the licensing and regulatory activities of the NRC are complex and technical, and environmental justice communities may face similar obstacles to participation. Commenters discussed the need for public liaisons to help the public through the process of participating as intervenors and understanding, for example, what filings needed to be submitted and when.¹⁹ Members of the public (and even seasoned participants) often struggle with participating in the Commission’s NEPA processes, particularly proceedings before the Atomic Safety and Licensing Board Panel (ASLBP)—the major avenue for challenging the Commission’s NEPA analysis and seeking improved assessment of environmental issues with an

¹⁴ See generally *id.* The Sustainable FERC Project of the Natural Resources Defense Council also commissioned a report on best practices for establishing the Office of Public Participation that may also be useful for the NRC to consider. See generally JACKIE ALTSCHULER ET AL., M.J. BRADLEY & ASSOCIATES, ESTABLISHING THE FEDERAL ENERGY REGULATORY COMMISSION OFFICE OF PUBLIC PARTICIPATION: A REVIEW OF STAKEHOLDER INPUT (2021).

¹⁵ Comments of the Inst. for Pol’y Integrity at New York University School of Law, *The Office of Public Participation*, Docket No. AD21-9 (Apr. 23, 2021) (attached).

¹⁶ See *The Office of Public Participation; Notice of Virtual Workshop on Technical Assistance*, 86 Fed. Reg. 48,135 (Aug. 27, 2021).

¹⁷ See generally Transcript of Public Meeting to Discuss Agency Approach to Environmental Justice: Afternoon Session (July 15, 2021); Transcript of Public Meeting to Discuss Agency Approach to Environmental Justice: Evening Session (July 15, 2021).

¹⁸ See, e.g., Comments of Appalachian Voices at 2–3, *The Office of Public Participation*, Docket No. AD21-9 (May 7, 2021).

¹⁹ See *infra* Section II.B.5.

application or license—which have nuanced procedural rules that can be difficult to navigate.²⁰ Technical assistance may also be warranted in these proceedings, where it may be difficult to find and pay for the expert analysis needed to support contentions and challenge the analysis in the environmental report and environmental impact statement. It would benefit the Commission to review concerns raised and evaluate the solutions offered in FERC’s docket to determine whether they can inform the Commission’s own reform efforts.

B. The Commission Should Look to FERC’s Proceedings on Its Natural Gas Infrastructure Certification Policy Statement for Guidance on Improving Its Environmental Justice Assessment and Facilitating Meaningful Participation

The NRC should take note of changes that FERC makes in a forthcoming policy statement on natural gas infrastructure certification. Under the NGA, FERC is charged with reviewing certificates for new pipelines and other natural gas infrastructure, as well as any modifications or abandonments.²¹ Additionally, for each certificate, FERC must complete a NEPA review and produce either an environmental assessment or environmental impact statement.²² The Commission is likewise responsible for licensing (including relicensing, renewals, and decommissioning) of nuclear reactors and other facilities, including some uranium recovery projects. Like FERC, the NRC considers environmental justice impacts as part of its NEPA review.

A broad array of commenters provided FERC with recommendations on how to improve various aspects of its environmental justice review for natural gas infrastructure projects. In particular, the Commission should review comments submitted by a coalition of public interest organizations, including environmental justice organizations.²³ These comments provide detailed

²⁰ For example, the burden is on the petitioner in the first instance to demonstrate that they have sufficiently plead each contention to meet six (sometimes overlapping) requirements. *See* 10 C.F.R. § 2.309(f)(1). Petitioners also may not challenge information contained in the Generic Environmental Impact Statement (GEIS) where rulemaking requires its use in a supplemental environmental impact statement without a waiver from the Commission, *see* 10 C.F.R. § 2.335, a procedural step often forgotten or misunderstood that can cause challenges to be summarily rejected, *see, e.g., Florida Power & Light Co. (Turkey Point Nuclear Generating Units 3&4)*, LBP-19-3, 89 N.R.C. 245, 270 n.40 (2019) (rejecting NRDC contention regarding subsequent license renewal because it challenged a 2013 GEIS for failing to adequately consider the environmental impacts of the renewal).

²¹ *See* 15 U.S.C. § 717f.

²² *See* Certification of New Interstate Natural Gas Facilities, 83 Fed. Reg. 18,010, 18,022 (Apr. 25, 2018) (“The Commission’s consideration of an application triggers environmental review under NEPA.”).

²³ Supplemental Comments of Public Interest Organizations at 79–107, *Certification of New Interstate Natural Gas Facilities*, Docket No. PL18-1 (May 26, 2021) [hereinafter Public Interest Org. Natural Gas Comments] (comments of 54 environmental and other public interest organizations, including Natural Resources Defense Council, Sierra Club, WE ACT for Environmental Justice, Public Citizen, and Richmond Interfaith Climate Justice League, among others). Policy Integrity also submitted comments outlining recommendations on environmental justice analysis.

recommendations on how to improve the environmental justice assessment, including ways to enhance identification of environmental justice communities and the proper use of study areas and reference populations in assessment of impacts.²⁴ These organizations also suggest ways to overcome the technical and highly specialized nature of proceedings to improve engagement by environmental justice communities.²⁵ Additionally, two particularly relevant suggestions for the NRC may include taking advantage of the experience of regional staff that might be embedded in communities;²⁶ and attaching license conditions that mitigate impacts to environmental justice communities.²⁷ Additionally, these comments highlight the importance of a clear and articulable policy for evaluating environmental justice impacts and mitigation measures, explaining that failing to have clear guidelines or “standards and best practices” can “diminish[] government accountability and make it more difficult for interested and affected parties to anticipate what [FERC] will do about environmental justice for any given project.”²⁸

A *transparent* and *systematic* process for assessing and addressing environmental justice impacts is necessary for the agency to meet its obligations. Comments provided to FERC through its Notice of Inquiry provide significant recommendations for what should be included in such a process. The Commission’s obligations under NEPA are the same as FERC’s—the Commission should therefore review comments submitted to FERC during this proceeding and consider implementing any recommendations for improving its own analysis. Policy Integrity’s own recommendations for improving the Commission’s environmental justice assessment are in Section III of these comments.

II. The Commission Should Facilitate Meaningful Participation by Environmental Justice Communities

As recognized in several of the questions posed by the Request for Comment,²⁹ part of the Commission’s review must involve looking at whether and how it facilitates meaningful participation by environmental justice communities. Public participation can benefit the agency

Comments of the Inst. for Pol’y Integrity at New York University School of Law, *Certification of New Interstate Natural Gas Facilities*, Docket No. PL18-1 (May 26, 2021) [hereinafter Policy Integrity Natural Gas Comments] (attached).

²⁴ Public Interest Org. Natural Gas Comments, *supra* note 23, at 81–86.

²⁵ *Id.* at 87–89.

²⁶ *Id.* at 88–89.

²⁷ *Id.* at 100.

²⁸ *Id.*

²⁹ See NRC Request for Comment, 86 Fed. Reg. at 36,309.

by helping it fulfill its statutory mandates and by enhancing regulatory outcomes. To obtain these benefits, however, the Commission must ensure that opportunities for participation are well-designed and allow for meaningful public engagement. As such, the Commission should incorporate best practices identified by past studies to ensure that it achieves the goal of *effectively* securing participation from environmental justice communities.

A. Public Participation Has Numerous Benefits

Engagement of the public—and specifically environmental justice communities—can provide important benefits to the Commission. Meaningful participation by environmental justice communities will help the NRC to fulfill its statutory mandates under NEPA and the Atomic Energy Act (AEA). Furthermore, participation can enhance regulatory outcomes by helping the Commission obtain more comprehensive information on relevant issues and build public confidence in its ultimate decisions.

1. Public Participation Facilitates the Commission’s Statutory Obligations and Mandates

Under NEPA, the NRC has an obligation to disclose and assess the environmental impacts of licensing actions. Under the Commission’s implementing regulations, the licensee or applicant must compile an Environmental Report with “specific information to aid the NRC in preparing its independent analysis of the environmental effects of the proposed licensing action” and the NRC Staff must then issue its own environmental impact statement based on a review of information provided by the licensee or applicant, in comments, and obtained by the Staff itself.³⁰ Additionally, while the Commission has found that NEPA is the only pertinent law for assessing environmental justice impacts,³¹ enhanced participation by environmental justice communities can also facilitate the NRC’s mandate under the AEA, which generally requires that the Commission not issue licenses that would be “inimical to . . . the health and safety of the public.”³²

³⁰ *La. Energy Servs., L.P.* (Claiborne Enrichment Ctr.), CLI-98-03, 47 N.R.C. 77, 84 (1998).

³¹ *Id.* at 102; *Private Fuel Storage, L.L.C.* (Indep. Spent Fuel Storage Installation), CLI-02-20, 56 N.R.C. 147, 153 (2002).

³² 42 U.S.C. § 2099. For a thorough discussion of how the Commission can use the AEA as a basis for a meaningful environmental justice policy, see Eric Jantz, *Environmental Racism with a Faint Green Glow*, 58 NAT. RES. J. 247, 272–77 (2018).

The engagement of environmental justice communities may provide information necessary for an adequate NEPA analysis and help the NRC act to ensure the health and safety of the public, as required by the AEA, because these communities can identify problems, direct and collateral effects, unintended consequences, and novel solutions in a manner that will improve the NRC’s decisionmaking process and ultimately its decisions.³³ In particular, because environmental justice communities are often disproportionately affected by energy projects,³⁴ engaging environmental justice communities could provide information that will help bring to light potential adverse impacts and other issues early on. Early and active engagement by these communities could also avoid conflict and lengthy and costly legal processes. Meaningful and effective public participation by environmental justice communities can therefore facilitate the NRC’s accomplishment of its statutory mandates to protect public health and safety and adequately disclose and analyze environmental justice impacts.

2. Public Participation Improves Regulatory Outcomes

Public participation by environmental justice communities can improve the NRC’s regulatory outcomes by allowing the Commission to obtain more comprehensive information for use in its decisions. Frontline communities may be experts on the real-world consequences of the Commission’s regulatory decisions because of their personal experience, including living near reactors and uranium projects. Community members can provide information and a deeper understanding of these consequences that can only be gleaned from lived experiences.³⁵ Additionally, environmental justice communities might provide further information about public opinion that can help the NRC identify and analyze potential areas of conflict or litigation risk.³⁶

³³ MICHAEL SANT’AMBROGIO & GLEN STASZEWSKI, ADMIN. CONF. OF THE U.S., FINAL REPORT: PUBLIC ENGAGEMENT WITH AGENCY RULEMAKING 11 (2018).

³⁴ See, e.g., Mary Alldred & Kristin Shrader-Frechette, *Environmental Injustice in Siting Nuclear Plants*, 2 ENV’T JUSTICE 85, 91–96 (2009) (finding that nuclear power plants are more likely to be sited in zip codes that are predominantly poor and minority than in those with affluent, white communities); see also cf. SARAH WRAIGHT ET AL., ENVIRONMENTAL JUSTICE CONCERNS AND THE PROPOSED ATLANTIC COAST PIPELINE ROUTE IN NORTH CAROLINA (2018).

³⁵ Cynthia R. Farina et al., *Knowledge in the People: Rethinking “Value” in Public Rulemaking Participation*, 47 WAKE FOREST L. REV. 1185, 1197 (2012) (explaining that these communities have “situated knowledge” of the “impacts, ambiguities and gaps, enforceability, contributory causes, and unintended consequences that are based on the lived experience in the complex reality into which the proposed regulation would be introduced”); Eileen Gauna, *The Environmental Justice Misfit: Public Participation and the Paradigm Paradox*, 17 STAN. ENV’T L.J. 3, 72 (1998) (“[F]ormal expertise cannot capture the knowledge that exists within affected communities.”); SANT’AMBROGIO & STASZEWSKI, *supra* note 33, at 26.

³⁶ Marc Mihaly, *Citizen Participation in the Making of Environmental Decisions: Evolving Obstacles and Potential Solutions Through Partnership with Experts and Agents*, 27 PACE ENV’T L. REV. 151, 164–65 (2009) (discussing

With improved opportunities for environmental justice communities to participate in the Commission’s processes, members of such communities may be able to pass on information that the NRC might not otherwise obtain.

Moreover, engagement of environmental justice communities in the regulatory process can build public confidence in the NRC’s decisionmaking. Stakeholders and the general public may be more supportive of agency action when they are given a meaningful opportunity to be heard.³⁷ Stakeholders may have greater confidence in a process that brings community interests to the forefront of the discussion by engaging environmental justice communities and reducing emphasis on stakeholder politics.³⁸ Where the public is able to participate in the process and see that their concerns are heard and considered, they may be more inclined to accept, or even support, the outcome of the process.³⁹

B. The Commission Should Incorporate Best Practices Identified by Past Studies

For the benefits discussed above to accrue, the Commission must ensure that its processes for engagement are well-designed to allow for meaningful participation. That is, the NRC should review not only whether it provides avenues for environmental justice communities to participate, but also whether those processes are built to allow environmental justice communities to *effectively* participate. The NRC should consider implementing the following best practices for public participation processes.

1. The Commission Should Tailor Guidelines for Participation to the Type of Regulatory Action Contemplated

The NRC should develop both general guidelines and policies for public participation and practices tailored to the type of regulatory action contemplated to account for the unique needs of

how citizen participation can provide information about “the nature and depth of public opinion” and “the substance, weight, significance and politics of stakeholder concerns”).

³⁷ SANT’AMBROGIO & STASZEWSKI, *supra* note 33, at 17 (“[S]takeholders will be more supportive of agency rulemakings when their voices are heard by the agency, even when they do not get everything they want.”); *id.* at 16 (citing CYNTHIA R. FARINA & CeRI, IBM CTR. FOR THE BUS. OF GOV’T, RULEMAKING 2.0: UNDERSTANDING WHAT BETTER PUBLIC PARTICIPATION MEANS, AND DOING WHAT IT TAKES TO GET IT 12 (2013) as providing some evidence for this theory); *cf.* Michael Asimow, *Nonlegislative Rulemaking and Regulatory Reform*, 1985 DUKE L.J. 381, 402–03 (stating that public participation promotes democratic values because it allows agency staff to engage with groups or individuals that they may not regularly consult).

³⁸ Ian E. Cecala & A. Bryan Endres, *Damnesia: An Examination of Public Participation and Evolving Approaches to Hydropower Development in the US and Brazil*, 55 IDAHO L. REV. 115, 122 (2019).

³⁹ SANT’AMBROGIO & STASZEWSKI, *supra* note 33, at 3–4, 9–17.

the variety of actions taken by the Commission.⁴⁰ A general policy should require consideration of the following questions:

(1) the agency's goals and purposes in engaging the public; (2) the types of individuals or organizations with whom the agency seeks to engage, including experts and any affected interests that may be absent from or insufficiently represented in the notice-and-comment rulemaking process; (3) how such types of individuals or organizations can be motivated to participate; (4) what types of information the agency seeks from its public engagement; (5) how this information is likely to be obtained; (6) what the agency will do with the information; (7) when public engagement should occur; and (8) the range of methods of public engagement available to the agency.⁴¹

After considering these questions in developing a general policy, the NRC should develop a specific public engagement plan for each class of regulatory and adjudicatory actions it carries out. The content of these specific engagement plans depends heavily on the type of action in which the Commission engages. The Commission has a wide range of obligations and must approve action by different actors. Policies for ensuring effective participation in a proceeding regarding relicensing of a reactor will necessarily differ from policies for participation in a proceeding regarding a uranium recovery facility. Likewise, policies for ensuring effective participation in the scoping and comment period for the environmental impact statement may differ from policies for ensuring effective participation in administrative litigation before the ASLBP.

For each of these processes, the NRC may have different goals. Different methods for public engagement present different tradeoffs with regards to the time required to participate, specificity of the subject to be discussed, and mediation of conflict between participating parties, among other considerations.⁴² In addition, the choice of engagement method itself may serve as a signal to the public about the agency's intentions and can result in implicit assumptions about the weight the agency will afford to public

⁴⁰ See *id.* at 157 (explaining that agencies should develop engagement plans, keeping in mind that the “public’s role may vary from issue to issue, and at different stages of the rulemaking process”).

⁴¹ *Id.*

⁴² See Jennifer Nash & Daniel E. Walters, *Public Engagement and Transparency in Regulation: A Field Guide to Regulatory Excellence* 27 (Penn Program on Regulation, 2015).

comment.⁴³ The NRC's choice of method for public engagement for any particular regulatory action should reflect these considerations.

Once created, the NRC should make its general policies and specific public engagement plans available to the public through publication in the Federal Register, on the NRC website, and more broadly.⁴⁴ By developing a publicly accessible general policy for public participation and tailoring this policy to different proceedings, the NRC can facilitate more successful public participation by environmental justice communities.

2. The Commission Should Engage the Public Early in the Regulatory Process

The NRC should engage the public as early as feasible in proceedings to provide environmental justice communities the opportunity to meaningfully affect regulatory outcomes before irreversible first steps are taken.⁴⁵ Rulemaking is path-dependent, meaning that the early stages of the process have an outsized impact on the design and justification of final regulatory actions.⁴⁶ For that reason, groups that participate early tend to have more influence in agenda-setting and rule development.⁴⁷ Once an agency like the NRC has expended significant time and resources on a proposed action, it may be less likely to take action to address concerns voiced later on by environmental justice communities.⁴⁸ Additionally, when participation is offered only late in the decisionmaking process, communities may feel that their voices are not really being heard, understood, or taken seriously, but rather that their participation is merely a formality.⁴⁹ Community members may see these late attempts to engage the public as a public relations tactic to validate government or corporate decisions.⁵⁰ As a result, they may lose confidence in the

⁴³ *Id.*

⁴⁴ SANT'AMBROGIO & STASZEWSKI, *supra* note 33, at 157–58.

⁴⁵ Sara Pirk, *Expanding Public Participation in Environmental Justice: Methods, Legislation, Litigation and Beyond*, 17 J. ENV'T L. & LITIG. 207, 209 (2002).

⁴⁶ Keith Naughton et al., *Understanding Commenter Influence During Agency Rule Development*, 28(2) J. POL'Y ANALYSIS & MGMT. 258, 274 (2009).

⁴⁷ *Id.*

⁴⁸ Pirk, *supra* note 45, at 213; Jenny J. Tang, *Public Participation in Brownfield Redevelopment: A Framework for Community Empowerment in Zoning Practices*, 3 SEATTLE J. ENV'T L. 241, 258 (2013) (finding that in the context of brownfield development, public comment requirements are unlikely to initiate changes in response to environmental justice because the developers, municipalities, and bureaucrats have already invested substantial time and resources into the redevelopment project).

⁴⁹ Pirk, *supra* note 45, at 209–10.

⁵⁰ *Id.*

NRC's decisionmaking process. Therefore, it is important for the Commission to ensure participation early in the regulatory process to meaningfully integrate knowledge from environmental justice communities; respond to their concerns through, for example, rule design or licensing conditions; and increase the legitimacy of the agency's process.

3. The Commission Should Use Targeted Community Outreach Efforts

The Commission should use targeted community outreach efforts to help secure the participation of environmental justice groups. The goal of this targeted outreach is to solicit participation from individuals or entities that do not read the Federal Register, are unaware that they can participate in the rulemaking and adjudicatory processes, or are unable to effectively participate in the notice-and-comment or intervention process on their own.⁵¹ The NRC should ensure that it is publishing public notices outside the Federal Register, inviting participation where it would alert communities to potential impacts.⁵² Specifically, the NRC should consider posting notices with local media that might be more widely circulated and read by communities most affected.⁵³ The Commission might also use a convening process to identify affected interests and issues that need to be addressed prior to the start of the formal public participation process.⁵⁴

4. The Commission Should Work to Overcome Logistical Barriers to Participation

The NRC should aim to make public participation accessible to individuals who are representative of the affected population by proactively reducing barriers such as geographical, language, and resource constraints. Historically, public engagement has been dominated by traditional stakeholders, including industry and large environmental organizations, and participants tend to be “older, whiter, more affluent, more educated, and more likely to be male than the citizens within their community.”⁵⁵ In general, complex and resource intensive

⁵¹ SANT'AMBROGIO & STASZEWSKI, *supra* note 33, at 4.

⁵² Thomas Beierle & Jerry Cayford, *Democracy in Practice: Public Participation in Environmental Decisions*, 28 ADMIN & REGUL. L. NEWS 6, 16 (2013). As discussed above, there may be limits to when additional notices and convening processes are worthwhile depending on the nature of the proceeding and the action being taken.

⁵³ FERC has suggested its applicants employ this practice in their pre-filing activities. See FED. ENERGY REGL. COMM'N, IDEAS FOR BETTER STAKEHOLDER INVOLVEMENT IN THE INTERSTATE NATURAL GAS PIPELINE PLANNING PRE-FILING PROCESS: INDUSTRY, AGENCIES, CITIZENS, AND FERC STAFF 7 (2001).

⁵⁴ Beierle & Cayford, *supra* note 52, at 16.

⁵⁵ NASH & WALTERS, *supra* note 42, at 21 (citing Kathleen Halvorsen, *Critical Next Steps in Research on Public Meetings and Environmental Decision Making*, 13 HUM. ECOLOGY REV. 150, 153 (2006)).

participation processes are more likely to be socio-economically unrepresentative of the public at large.⁵⁶ Yet diverse participation can help decisionmakers “anticipate issues that are likely to arise in implementation, and identify innovative solutions.”⁵⁷ The NRC should work to ensure that individuals participating in its regulatory process are racially, socio-economically, and geographically diverse.⁵⁸

To ensure that public participation is representative of the affected population, and includes environmental justice communities, the Commission should remove logistical barriers to public participation. This includes choosing meeting times and locations that are convenient for community members to attend, recognizing that it can be challenging for individuals to travel long distances to participate, especially if meetings are held during the workday. Accordingly, the Commission should work to hold hearings and public meetings outside the workday and even provide multiple engagement opportunities for maximum flexibility for the public. Hearings and public meetings should also be held, where possible, close to project locations and/or near the communities most affected. Facilitating childcare or transportation assistance can also promote attendance.⁵⁹ For lengthier meetings, specific time schedules for different topics of discussion can make it easier for community members with time constraints to participate, provided that the topics are not rescheduled at the last minute.⁶⁰ Finally, environmental justice communities may experience linguistic barriers that could inhibit meaningful participation.⁶¹ To mitigate this issue, the NRC should ensure that language interpreters are available to the public during hearings and that translated materials are available where appropriate.⁶²

⁵⁶ Beierle & Cayford, *supra* note 52, at 16.

⁵⁷ *Cf.* NASH & WALTERS, *supra* note 42, at 22 (discussing benefits of diverse participation on advisory committees).

⁵⁸ SANT'AMBROGIO & STASZEWSKI, *supra* note 33, at 8.

⁵⁹ John M. Bryson et al., *Designing Public Participation Processes*, 73 PUB. ADMIN. REV. 23, 29 (2013).

⁶⁰ John C. Duncan, Jr., *Multicultural Participation in the Public Hearing Process: Some Theoretical, Pragmatical, and Analeptical Considerations*, 24 COLUM. J. ENV'T L. 169, 193 (1999).

⁶¹ For example, key documents, like Environmental Impact Assessments, utilize highly technical language that is difficult to understand even for native English speakers. *Id.* at 195–97; SANT'AMBROGIO & STASZEWSKI, *supra* note 33, at 8. The NRC should reconsider its policy to not require applicants to provide licensing application documents in languages other than English, *see, e.g.*, Nuclear Regul. Comm'n, NUREG-2239, Environmental Impact Statement for Interim Storage Partners LLC's License Application for a Consolidated Interim Storage Facility for Spent Nuclear Fuel in Andrews County, Texas at D-20 (July 2021) [hereinafter NUREG-2239, Texas Interim Storage Facility EIS], particularly where the project is located in regions with large populations of non-English speakers.

⁶² *See* Bryson, *supra* note 59, at 29.

5. The Commission Should Provide Public Liaisons

The Commission should provide public liaisons that can, at minimum, provide general information about processes and public participation rights. Public liaisons can provide neutral *procedural* assistance to environmental justice communities to ensure that they are able to effectively participate in Commission proceedings. The Commission should have liaisons available to provide potential participants with resources describing the various Commission processes and major opportunities for public participation.⁶³ There are many procedural details—statutory or regulatory deadlines, standing requirements, and filing requirements—that the general public may not be familiar with.⁶⁴ Liaisons should also be authorized to walk the public through these processes and be able to explain the procedures with clarity. The NRC should also consider collaborating with environmental justice groups to create templates that liaisons can provide to potential commenters or intervenors as a reference point for submission.

Public liaisons are important not just for commenting on an environmental assessment or environmental impact statement during the NEPA process, but also particularly important for effective participation in proceedings before the ASLBP. The ASLBP is a relatively unknown arm of the Commission that has niche procedural rules with strict substantive requirements and deadlines. A public liaison can help alleviate some of the procedural difficulties with intervening in an ASLBP proceeding. Liaisons can educate the public on “what type of filings exist, what needs to happen at different stages of the process, and what you need to do to submit comments.”⁶⁵

6. The Commission Should Provide Technical Assistance

The NRC should provide technical assistance to environmental justice communities as well. The technical complexity of proceedings “is bound to be a barrier to the average citizen.”⁶⁶ Therefore, lack of expert assistance can inhibit successful public participation. An agency’s reliance on technical expertise in an administrative hearing can prevent those who lack such

⁶³ Again, such resources can and should be tailored to the type of action contemplated, as discussed above.

⁶⁴ SANT’AMBROGIO & STASZEWSKI, *supra* note 33, at 8.

⁶⁵ Comments of Vote Solar at 1, *Office of Public Participation*, Docket No. AD21-9 (Apr. 23, 2021) [hereinafter Vote Solar Comments].

⁶⁶ See Duncan, *supra* note 60, at 195.

expertise from participating fully.⁶⁷ General public comments or input may not be weighted as heavily because they may not be on the same technical level or experience as agency and other stakeholder experts.⁶⁸ In addition, communities may not have access to information relevant to the proceeding. For each of these reasons, environmental justice communities (and the public generally) are disadvantaged in the proceedings compared to other stakeholders with financial and technical expertise and resources. The NRC should thus work to reduce technical barriers to the meaningful participation of the broader public.

The Commission might also consider providing technical assistance to applicants and licensees to improve their outreach during the NEPA process. In a public workshop held by FERC, Vote Solar, an organization working to “make solar affordable and accessible to more Americans,”⁶⁹ and its Access & Equity Team Policy Director, Olivia Nedd, noted that technical assistance has two aspects.⁷⁰ First, technical assistance should be provided to organizations and individuals to participate in regulatory and administrative proceedings⁷¹—the kind of assistance discussed above. Beyond that, however, technical assistance is also needed to assist applicants and licensees with their outreach and engagement with the public.⁷² This engagement might include educating and assisting the applicant or licensee to receive “early input from impacted communities” to “alert communities early-on of potential planned projects and how to gather and incorporate community feedback into project planning.”⁷³ The Commission can provide this assistance to its applicants and licensees and ensure that outreach to environmental justice communities “is not meant to just check a box, but offer real outcomes that help communities.”⁷⁴ As Vote Solar explains, improving outreach can allow an applicant or licensee to “work with

⁶⁷ *Id.* at 195–97. It is important to note that individual FERC staff who conduct these hearings may pose a barrier to meaningful public participation because “their technical familiarity with the issues may result in less familiarity with the public’s viewpoint.” *Id.* at 197.

⁶⁸ *Id.* at 195–97; *see also* Nicholas A. Fromherz, *From Consultation to Consent: Community Approval as a Prerequisite*, 116 W. VA. L. REV. 109, 142 (2013) (“Although lay citizens may speak their piece without the benefit of technical expertise or legal representation, such input will, by and large, go unheeded. Environmental decisionmaking under NEPA and similar regimes is simply too complicated and nuanced for raw public input to have an effect.”).

⁶⁹ Vote Solar Comments, *supra* note 65, at 1.

⁷⁰ Written Testimony of Olivia Nedd, Pol’y Dir., Vote Solar, at 2, *Office of Public Participation*, Docket No. AD21-9, (Apr. 28, 2021); Vote Solar Comments, *supra* note 65, at 2, 4.

⁷¹ Vote Solar Comments, *supra* note 65, at 2.

⁷² *Id.*

⁷³ *Id.*

⁷⁴ *Id.*

communities to figure out what the outcomes will look like that benefit the community” rather than “coming up with a project and trying to convince communities of what needs to happen.”⁷⁵

This important recommendation from Vote Solar is highly applicable to the NRC. While applicants and licensees begin the NEPA process by developing the environmental report, it is the Commission that bears responsibility for conducting a NEPA review, including an environmental justice assessment.⁷⁶ Often the agency adopts much of the environmental report in developing its environmental impact statement.⁷⁷ Aiding applicants and licensees in soliciting and meaningfully incorporating information and feedback from environmental justice communities would therefore benefit the agency in fulfilling its statutory mandates.

III. The Commission Should Consider Analytical Tools that Allow the NRC to Weigh the Environmental Justice Impacts of an Action

In its Request for Comment, the Commission poses several questions on how it should conduct environmental justice assessments. Specifically, the NRC asks how it could improve its identification of environmental justice communities; what actions it could take to improve its consideration of environmental justice impacts in decisionmaking; and if there are opportunities to expand consideration of environmental justice throughout the Commission’s work.⁷⁸ This section offers suggestions for how NRC can improve its environmental justice analyses that are particularly relevant to when the NRC conducts cost-benefit analysis, which it does in the NEPA context,⁷⁹ and are also consistent with informal guidance on conducting environmental justice

⁷⁵ *Id.* at 2–3.

⁷⁶ *See, e.g., Duke Power Co. (Catawba Nuclear Station, Units 1 & 2)*, CLI-83-19, 17 N.R.C. 1041, 1049 (1983) (“It is also settled that the NRC has the burden of complying with NEPA.”).

⁷⁷ *See La. Energy Servs., L.P. (Claiborne Enrichment Ctr.)*, LBP-96-25, 44 N.R.C. 331, 339 (1996) (citing *Pub. Serv. Co. of N.H. (Seabrook Station, Units 1 & 2)*, ALAB-471, 7 N.R.C. 477, 489 n.8 (1978)), *rev’d on other grounds*, CLI-97-15, 46 N.R.C. 294 (1997) (noting that “[a]s a practical matter, much of the information in an Applicant’s [Environmental Report] is used in the [Draft Environmental Statement]” and that “the Staff, as a practical matter, relies heavily upon the Applicant’s [Environmental Report] in preparing the EIS”).

⁷⁸ NRC Request for Comment, 86 Fed. Reg. at 36,309.

⁷⁹ Regulations guiding the Commission’s environmental review require it to include “a consideration of the economic, technical, and other benefits and costs of the proposed action and alternatives” in draft environmental impact statements. 10 C.F.R. § 51.71(d). The Commission Staff is directed to issue a preliminary recommendation “after considering the environmental effects of the proposed action and reasonable alternatives, and . . . after weighing the costs and benefits of the proposed action.” 10 C.F.R. § 51.71 (f). *See also* Nuclear Regul. Comm’n, NUREG-1748, Environmental Review Guidance for Licensing Actions Associated with NMSS Programs (July 2003) (prescribing the Cost-Benefit Analysis section of an environmental impact statement).

assessments in NEPA review.⁸⁰ The Commission should engage stakeholders before finalizing any plan for changing its analytical approach and should use the best practices discussed above to inform those interactions.

First, the NRC should continue to use granular geographic data to identify environmental justice communities and assess the impacts of its actions, including by ensuring that the specificity of the data is appropriate for the nature of the impact (e.g., taking into consideration the downwind locations of air pollution impacts).⁸¹ The NRC can use detailed spatial modeling to assess how different areas (e.g., census blocks) would be affected by licensing of a nuclear plant or waste storage facility.⁸² Focusing on an appropriately specific geographic unit of analysis not only helps the NRC identify which communities or groups are affected, but also enables the NRC to illuminate disparate impacts that may be obscured when the analysis looks at larger geographic units.⁸³ In this way, a consistently granular approach both facilitates accurate assessments of an action's impacts *and* provides an informational foundation for weighing the environmental justice impacts of an action against that action's other effects. Guidance from the Interagency Working Group on Environmental Justice repeatedly emphasizes the importance of having adequate data, including spatially granular data, to properly assess the “adverse and beneficial impacts” of an action on subpopulations of interest.⁸⁴

Second, the NRC should conduct its environmental justice analysis by disaggregating an action's effects (e.g., costs, benefits, and/or risks) by subpopulations (e.g., income quartiles or minority status) to illuminate whether any economic or demographic group can be expected to

⁸⁰ See, e.g., INTERAGENCY WORKING GRP. ON ENV'T JUSTICE, PROMISING PRACTICES FOR EJ METHODOLOGIES IN NEPA REVIEWS (2016) [hereinafter PROMISING PRACTICES].

⁸¹ For a discussion on units of analysis when assessing distributional impacts, see Richard L. Revesz & Samantha P. Yi, *Distributional Consequences and Regulatory Analysis*, 52 ENV'T L. (forthcoming 2022) (manuscript at 26–29), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3927277.

⁸² See *infra* Section III.A; see also Policy Integrity Natural Gas Comments, *supra* note 23, at 47–49 (recommending FERC use census blocks for identifying environmental justice populations and explaining benefits of more granular geographic units).

⁸³ Revesz & Yi, *supra* note 81 (manuscript at 26–29).

⁸⁴ See, e.g., PROMISING PRACTICES, *supra* note 80, at 16 (“Agencies may wish to consider collecting data and information relevant to the three community considerations in Step One (exposure pathways, related impacts, and beneficial impacts distribution) for minority populations and low-income populations within the boundaries of the baseline characterization. Include data related to reasonably foreseeable direct, indirect, and cumulative adverse and beneficial impacts from the proposed federal action on the community. Agencies may also be informed by consideration of multiple exposures.”).

disproportionately bear the burdens or receive the benefits of a proposed project or action.⁸⁵ For any actions for which the NRC conducts a cost-benefit analysis, it should present disaggregated costs and benefits alongside aggregated costs and benefits. Presenting the effects of a proposed action in a disaggregated manner can help inform the Commission’s decisionmaking, and also be useful to communities interested in engaging in the NRC’s stakeholder process.

Third, the NRC should transparently incorporate the findings of its distributional analyses into decisionmaking.⁸⁶ That is, the Commission should determine to what extent the environmental justice impacts of an action weigh against other considerations. The Commission should consider possible approaches, including the use of quantitative tools, explained in more detail below, for doing so. The NRC should solicit stakeholder feedback on these or any other methodologies it may adopt as part of its efforts to enhance environmental justice analysis and address environmental justice impacts.

Fourth, the Commission should consider how its actions contribute to cumulative effects on environmental justice communities.⁸⁷ In its assessment, it should consider how the action at issue will build on the effects on environmental justice communities of other agencies’ actions. Environmental justice communities are often already overburdened by the associated pollution and other impacts from energy facilities and other industrial infrastructure.⁸⁸ The Commission should evaluate whether its action, together with other relevant actions, will cumulatively cause disproportionately adverse impacts.

⁸⁵ See *infra* Section III.B.

⁸⁶ See *infra* Section III.C.

⁸⁷ See *infra* Section III.D.

⁸⁸ See generally, e.g., CLEAN AIR TASK FORCE, FUMES ACROSS THE FENCE-LINE: THE HEALTH IMPACTS OF AIR POLLUTION FROM OIL & GAS FACILITIES ON AFRICAN AMERICAN COMMUNITIES (2017) (describing the greater likelihood that African Americans will live in fence-line communities and explaining that the disparity “is not a coincidence” because “[h]istorically, polluting facilities have often been sited in or near African American communities”); see also Shalanda H. Baker, *Anti-Resilience: A Roadmap for Transformational Justice within the Energy System*, 54 HARV. C.R.-C.L. L. REV. 1, 9–15 (2019) (describing “the current energy system and how the system has historically burdened communities of color and low-income communities”). EPA has identified higher median blood lead levels among black children and those living in poverty, compared to economically well-off and white children. See National Ambient Air Quality Standards for Lead, 73 Fed. Reg. 66,964, 66,976 (Nov. 12, 2008). Higher concentrations of particulate matter, according to EPA, also exist in communities with lower income, lower rates of education, and higher percentages of minority populations, see National Ambient Air Quality Standards for Particulate Matter, 78 Fed. Reg. 3086, 3125 (Jan. 15, 2013), and have been linked to “disproportionately high and adverse effects on minority and/or low-income populations.” *Id.* at 3266.

A. The Commission Should Continue to Use Granular Data to Assess Environmental Justice Impacts

A critical first step to identify and address environmental justice concerns is to identify who is being affected by an action, and to what degree. Measuring impacts at aggregate scales can hinder this objective, as group averages often mask disparate effects across communities and fail to accurately capture total regulatory impacts.⁸⁹ Thus, in order to improve quantification of total impacts and enable better identification and analysis of disproportionate effects, the NRC should measure effects as granularly as possible, considering different levels of exposure and risk factors of affected communities. These granular measurements would allow the Commission to accurately capture the nature and severity of impacts and so should be the foundation for better environmental justice analysis. More details on why granular data is particularly important for environmental justice analysis can be found under Recommendation 1 of Policy Integrity’s August 2021 report, *Making Regulations Fair*, which is attached.⁹⁰

Recent research in public health and economics that applies novel modeling techniques and disaggregated demographic data highlights how a granular analysis of impacts might better reveal environmental injustices, in ways that coarser analysis cannot. For example, toxic emissions from industrial plants have been shown to cause low infant birthweight only in narrow areas surrounding a plant.⁹¹ Thus, in assessing the health impacts of an industrial plant, a county aggregate—let alone a state or national estimate—would obscure the disproportionate effects of those populations more directly affected by pollution. And, depending on the number and demographics of the individuals living within the proximate range of the relevant plants, larger aggregates could significantly under- or over-estimate the total regulatory effect.

The NRC is already using granular spatial data (census blocks) to identify environmental justice communities; however, it is unclear if the NRC is also using appropriately specific data when analyzing the foreseeable effects of an action. Based on the conclusions it draws for some impacts, it seems the Commission chooses not to analyze any data at all, but rather relies on

⁸⁹ See JACK LIENKE ET AL., INST. FOR POL’Y INTEGRITY, MAKING REGULATIONS FAIR: HOW COST-BENEFIT ANALYSIS CAN PROMOTE EQUITY AND ADVANCE ENVIRONMENTAL JUSTICE 6–9 (2021) [hereinafter MAKING REGULATIONS FAIR]; see also Revesz & Yi, *supra* note 81 (manuscript at 26–29).

⁹⁰ MAKING REGULATIONS FAIR, *supra* note 89, at 6–9.

⁹¹ Janet Currie et al., *Environmental Health Risks and Housing Values: Evidence from 1,600 Toxic Plant Openings and Closings*, 105 AM. ECON. REV. 678 (2015).

assumptions to complete its environmental justice analysis. For example, in a recent environmental impact statement for a spent nuclear fuel storage facility, the NRC used assumptions about nearby energy projects complying with public health and safety standards to conclude there would be minimal environmental justice effects.⁹² If the Commission had instead modeled possible impacts at the census block level, including foreseeable effects even if all nearby projects remain in compliance, it may have found significant adverse cumulative impacts on nearby environmental justice communities.

Besides identifying different levels of exposure, granular measurements or modeling would also enable better integration of the risk factors associated with affected communities,⁹³ allowing the Commission to better translate pollution levels into public health impacts, for example. Populations with different socioeconomic characteristics can differ in their vulnerability to changes induced by regulation, as an additional unit of pollution more severely affects a vulnerable population than a non-vulnerable one.⁹⁴ As a result, granular analysis is critical not only to identifying the affected communities, but ultimately to accurately estimating the public health impacts of the regulation that are influenced by the profile of the communities affected. Due to differing levels of vulnerability, a licensing decision could result in disproportionate effects even if all communities are equally exposed to the same levels of pollution (although such uniform exposure rarely occurs).⁹⁵ Granular data allows the NRC to evolve its practices to account for a more nuanced and complex view of who is affected by environmental injustice.

To more fully assess distributional impacts, the NRC should also seek to granularly estimate costs and benefits of licensing decisions or regulations.⁹⁶ Even environmental actions

⁹² NUREG-2239, Texas Interim Storage Facility EIS, *supra* note 61, at 5-49.

⁹³ Executive Order 12,898 and the Commission's policy statement on environmental justice focus on "low-income populations" and "minority populations." Policy Statement on the Treatment of Environmental Justice Matters in NRC Regulatory and Licensing Actions, 69 Fed. Reg. 52,040 (Aug. 24, 2004); Exec. Order No. 12,898, 59 Fed. Reg. 7629 (Feb. 11, 1994). However, more recent executive actions and guidance have an expanded view of what types of groups or characteristics merit special attention. *See, e.g.*, Exec. Order No. 13,985, 86 Fed. Reg. 7009 (Jan. 20, 2021).

⁹⁴ Qian Di et al., *Air Pollution and Mortality in the Medicare Population*, 26 NEW ENGLAND J. MED. 2513 (2017).

⁹⁵ Solomon Hsiang, Paulina Oliva & Reed Walker, *The Distribution of Environmental Damages*, 13 REV. ENV'T ECON. & POL'Y 83 (2019); H. Spencer Banzhaf, *Regulatory Impact Analyses of Environmental Justice Effects*, 27 J. LAND USE 1, 14 (2011).

⁹⁶ *See* Banzhaf, *supra* note 95.

that bring health-related benefits to some vulnerable communities could impose disproportionate costs on these same communities, if, for instance, they are dependent on the pollution sources for jobs or tax revenue-funded public services.⁹⁷ These costs might offset health-related benefits in some cases.⁹⁸ Hence, environmental justice generally, as well as socioeconomic impact analysis under NEPA, should seek to assess both benefits and costs on a granular scale.

B. The Commission Should Disaggregate Impacts to Understand the Environmental Justice Effects of Its Actions

Equipped with granular estimations of effects, including different impact intensities and risk factors across communities, the Commission could tally how those effects, including costs and benefits, are distributed among discrete demographic groups. The NRC should provide such demographically disaggregated impacts—in addition to aggregate impacts—whenever possible.

Such disaggregated analysis would enable the NRC to assess not only how costs and benefits are dispersed among different subpopulations, but also whether a proposed rule is net-beneficial or net-costly for particular groups. This information then would help the Commission understand the magnitude of distributional consequences. The NRC should conduct such disaggregated analysis not only of the preferred action, but also of any alternatives it considers. This exercise would reveal important information about whether there are alternatives with more desirable environmental justice outcomes.⁹⁹ Moreover, like good cost-benefit analysis itself, disaggregated estimates could also improve agency decisionmaking by better informing the public and decisionmakers on the regulation’s distributional impacts and thereby “reduc[ing] interest group power over” the rulemaking process.¹⁰⁰ According to former Office of Information and Regulatory Affairs Administrator John Graham, advocates for low-income groups are underrepresented among lobbyists,¹⁰¹ and so adding a “distributional test” to cost-benefit

⁹⁷ See, e.g., Nuclear Regul. Comm’n, NUREG-1437, Generic Environmental Impact Statement for License Renewal of Nuclear Plants, Supplement 7, Second Renewal: Regarding Subsequent License Renewal for North Anna Power Station Units 1 and 2 at 3-149 (Aug. 2021) (describing potential adverse economic effects from a non-renewal scenario) [hereinafter NUREG-1437, North Anna EIS].

⁹⁸ Jonathan I. Levy, *Accounting for Health Risk Inequality in Regulatory Impact Analysis: Barriers and Opportunities*, 41 RISK ANALYSIS 610 (2021); ENV’T PROT. AGENCY, FINAL GUIDANCE FOR INCORPORATING ENVIRONMENTAL JUSTICE CONCERNS IN EPA’S NEPA COMPLIANCE ANALYSES (1998).

⁹⁹ See Revesz & Yi, *supra* note 81 (manuscript at 33–35).

¹⁰⁰ Cass R. Sunstein, *The Cost-Benefit State* 22–23 (Coase-Sandor Inst. for L. & Econ. Working Paper No. 39, 1996).

¹⁰¹ John Graham, *Savings Lives Through Administrative Law and Economics*, 157 U. PA. L. REV. 395, 520 (2008).

analysis would help ensure that “regulators . . . seriously consider the impact” of decisions on marginalized groups.¹⁰²

The NRC’s NEPA regulations require the agency to consider costs and benefits in environmental impact statements,¹⁰³ though NEPA itself does not require a full and formal cost-benefit analysis.¹⁰⁴ However, NEPA caselaw does require that agencies’ approaches to assessing costs and benefits must be balanced and reasonable,¹⁰⁵ and courts have warned that an agency cannot selectively monetize benefits in support of its decision while refusing to monetize the costs of its action.¹⁰⁶ Currently, the NRC does not monetize all costs and benefits for which monetization would be practicable,¹⁰⁷ but rather only monetizes some effects in its NEPA reviews; this is insufficient. The purpose of the cost-benefit analysis that the NRC includes in its NEPA reviews is “to focus on those benefits and costs of such magnitude or importance that their inclusion . . . can inform the decision-making process.”¹⁰⁸ However, by only including monetized construction and operation costs, which the Commission does in many environmental impact statements,¹⁰⁹ and not any monetized social costs or benefits, even when these can be readily monetized, the NRC obscures potentially significant impacts, including environmental justice impacts. Excluding the specific costs and benefits to environmental justice communities

¹⁰² *See id.*

¹⁰³ 10 C.F.R. § 51.71(d).

¹⁰⁴ *Id.* § 1502.22 (“[T]he weighing of the merits and drawbacks of the various alternatives need not be displayed in a monetary cost-benefit analysis.”).

¹⁰⁵ *See, e.g., Sierra Club v. Sigler*, 695 F.2d 957, 978–79 (5th Cir. 1983) (holding that NEPA “mandates at least a broad, informal cost-benefit analysis,” and so agencies must “fully and accurately” and “objectively” assess environmental, economic, and technical costs); *Chelsea Neighborhood Ass’ns v. U.S. Postal Serv.*, 516 F.2d 378, 387 (2d Cir. 1975) (“NEPA, in effect, requires a broadly defined cost-benefit analysis of major federal activities.”); *Calvert Cliffs’ Coordinating Comm. v. U.S. Atomic Energy Comm’n*, 449 F.2d 1109, 1113 (D.C. Cir. 1971) (“NEPA mandates a rather finely tuned and ‘systematic’ balancing analysis” of “environmental costs” against “economic and technical benefits”); *Nat’l Wildlife Fed’n v. Marsh*, 568 F. Supp. 985, 1000 (D.D.C. 1983) (“The cost-benefit analysis of NEPA is concerned primarily with environmental costs. . . . A court may examine the cost-benefit analysis only as it bears upon the function of insuring that the agency has examined the environmental consequences of a proposed project.”).

¹⁰⁶ *High Country Conservation Advocates v. U.S. Forest Serv.*, 52 F. Supp. 3d 1174, 1191 (D. Colo. 2014) (holding that, in the NEPA context, “even though NEPA does not require a cost-benefit analysis, it was nonetheless arbitrary and capricious to quantify the benefits of” a proposed action without also monetizing the costs, calling such practice only “half of a cost-benefit analysis”).

¹⁰⁷ *See* Nuclear Regul. Comm’n, NUREG-2248, Draft Environmental Impact Statement for the License Renewal of the Columbia Fuel Fabrication Facility in Richland County, South Carolina at 3-124 to 3-129 (July 2021) (showing only some monetized costs, but not readily monetizable effects like tax revenue).

¹⁰⁸ NUREG-2239, Texas Interim Storage Facility EIS, *supra* note 61, at 8-1.

¹⁰⁹ *See id.* at 8-3 to 8-11.

may cause the Commission to overlook those effects entirely, as they are not readily comparable to the effects the Commission has chosen to monetize.¹¹⁰

C. The Commission Should Consider One or More Quantitative Tools to Assess the Distributional Desirability of Alternatives

Simply presenting granular and disaggregated data is not enough to address environmental justice concerns. The Commission should develop a methodology for ensuring that the findings of an environmental justice analysis are rigorously considered as part of the decisionmaking process, rather than published simply to pay lip service to Executive Order 12,898. For example, in a recent environmental impact statement, the NRC staff concludes that “past, present, and reasonably foreseeable future actions” associated with the proposed project, “could potentially contribute to cumulative disproportionately high and adverse human health or environmental effects in . . . the environmental justice study area,”¹¹¹ but does not explain how this should factor into the Commission’s decision to approve the project.

Policy Integrity has identified three possible approaches to incorporating environmental justice analysis into decisions about licensing or rules that build upon conducting a disaggregated cost-benefit analysis:

1. Qualitatively assessing the desirability of distributional outcomes from a disaggregated cost-benefit analysis;
2. Using quantitative tools that enable regulators to assess the desirability of distributional outcomes; or
3. Using weighted cost-benefit analysis that directly incorporates distributional outcomes into aggregated cost and benefit totals.

While each approach is briefly described below, in-depth descriptions of these approaches can be found under Recommendation 3 in *Making Regulations Fair*.¹¹² Before adopting any of these approaches, the Commission should seek input from interested stakeholders.

¹¹⁰ Difficulty comparing monetized effects with nonmonetized effects, or assuming that monetized effects have greater weight than nonmonetized effects, may be due to an effect known as salience bias. Salience bias causes individuals to focus more on information that is more prominent, and disregard information that is less prominent. See DANIEL KAHNEMAN ET AL., JUDGMENT UNDER UNCERTAINTY: HEURISTICS AND BIASES (1982). Studies show that salience bias is a critical obstacle for environmental protection. See, e.g., Shahzeen Z. Attari, *Perceptions of Water Use*, 111 PROC. NAT’L ACADS. SCIS. 5129 (2014).

¹¹¹ Nuclear Regul. Comm’n, NUREG-2243, Environmental Impact Statement for the Disposal of Mine Waste at the United Nuclear Corporation Mill Site in McKinley County, New Mexico at 5-46 (Oct. 2020).

¹¹² MAKING REGULATIONS FAIR, *supra* note 89, at 13–22.

The first option, qualitative assessment, is premised on the status quo, where the NRC maintains broad discretion to determine whether and how distributional desirability should affect its decisions. Coupled with disaggregated tallies of costs and benefits, as recommend in the previous section, a qualitative assessment would give the NRC an opportunity to discuss how the costs and benefits are distributed and then demonstrate why it is acceptable to move forward with the action considering this distribution of beneficial and adverse impacts. In other words, the Commission could treat distributional outcomes as it would any other unquantified benefits, by explaining why “the better distributional consequence is sufficiently compelling to overcome the loss in quantified net benefits.”¹¹³ Where one alternative has higher net benefits in only monetary terms but another alternative (which is also net-beneficial) has better distributional attributes because more benefits accrue to disadvantaged populations, the NRC could therefore justify selecting the latter.¹¹⁴ However, the Commission should be wary of presenting a qualitative analysis of environmental justice effects alone, without a presentation of disaggregated costs and benefits, which make it easy for an agency to give those effects minimal weight in deciding to approve a proposed action.¹¹⁵

The second option, quantitative assessment, involves using a set of standardized metrics for scoring policies’ distributional outcomes. This kind of approach includes use of inequality metrics and social welfare functions that can enable the NRC to “score,” or assess the desirability of, different distributional outcomes. The Commission retains discretion as to how to use those scores when selecting among regulatory options, but it should treat these scores similarly to how it would treat significant or important nonmonetized effects, as discussed above. Agencies often use their expert judgement to weigh quantified but nonmonetized effects, like risks, or unquantified benefits against costs and benefits, and the NRC should consider the outputs of these metrics in the same way.¹¹⁶

The third option is only relevant to decisionmaking processes wherein the Commission undertakes a cost-benefit analysis, which it does as part of NEPA reviews for licensing

¹¹³ See Revesz & Yi, *supra* note 81, at 38.

¹¹⁴ See *id.* at 38–39.

¹¹⁵ See MAKING REGULATIONS FAIR, *supra* note 89, at 3.

¹¹⁶ See *id.* at 14; see also Revesz & Yi, *supra* note 81, at 38–39.

decisions.¹¹⁷ In this third option, the NRC would fully integrate distributional effects into the bottom line of a cost-benefit analysis by using distributional weights that reflect the diminishing marginal utility of income (recognizing that a dollar is worth more to a poor person than a rich one) or the diminishing marginal utility of well-being more broadly understood, based on a utilitarian social welfare function. Alternatively, the NRC could use weights that reflect an ethical choice to prioritize net benefits for worst-off individuals or groups, based on a prioritarian social welfare function. Rather than supplementing a traditional cost-benefit analysis, under this alternative these metrics would effectively replace that traditional analysis.¹¹⁸

D. The Commission Should Consider Cumulative Effects in Its Environmental Justice Analysis

The NRC should not consider the environmental justice impacts of its actions in a vacuum, but rather assess how the effects of its actions build on the effects of its other actions and the actions of other agencies that may also affect the same environmental justice communities. In a recent letter to the Michigan Department of Environment, Great Lakes, and Energy (EGLE), the U.S. Environmental Protection Agency (EPA) asked the local regulator to reconsider the siting of an asphalt facility in Flint, Michigan.¹¹⁹ In particular, EPA recommended that EGLE conduct “a cumulative analysis of the proposed emissions from all emission units at the proposed facility, fugitive emissions from the proposed facility, and emissions from nearby industrial facilities, to provide a more complete assessment of the ambient air impacts of the proposed facility” on the Flint community.¹²⁰ In that letter, EPA addressed one of the key weaknesses of environmental justice analyses to date: these analyses often consider the effects of only the individual action on environmental justice communities, ignoring any important context, such as other industrial facilities, that would change the magnitude or significance of those effects. To prevent this myopia, the NRC should regularly and continuously work with any other federal or state agencies responsible for reviewing projects in a given area to ensure that all cumulative impacts on environmental justice communities are considered. Further recommendations for a whole-of-government approach to distributional analysis, including

¹¹⁷ See, e.g., NUREG-2239, Texas Interim Storage Facility EIS, *supra* note 61, at 8-1 to 8-12.

¹¹⁸ MAKING REGULATIONS FAIR, *supra* note 89, at 21–22.

¹¹⁹ Letter from Cheryl L. Newton, Acting Reg'l Adm'r, U.S. Env't Prot. Agency Region 5, to Mary Ann Dolehanty, Air Quality Div., Mich. Dep't of Env't, Great Lakes, and Energy (Sept. 16, 2021) [hereafter EPA Letter to EGLE], <https://perma.cc/38DA-C7X4>.

¹²⁰ *Id.* at 2.

environmental justice analysis, can be found under Recommendation 4 of *Making Regulations Fair*.¹²¹

In considering cumulative effects, the NRC should rely on actual information about effects rather than relying on assumptions to conclude that there would not be any disproportionately high or adverse effects on the groups and communities covered in its environmental justice analysis. For example, in analyzing a project's cumulative air quality impacts on environmental justice groups, the Commission stated that it anticipated compliance by other projects with permitting and licensing requirements and so concluded that the project in question would have no adverse impacts.¹²² The Commission thus assumes first that all projects in the area will comply with permitting and licensing requirements and second, that these requirements guarantee that there is no significant impact on human health or the environment. However, both these propositions may be untrue.¹²³ The Commission must assess data on the permissible types and volumes of pollution and determine if those effects, coupled with the effects of a proposed project, could constitute disproportionately high or adverse impacts on groups who may face other vulnerabilities (e.g., health disparities or exposure to harmful pollutants from multiple sources).¹²⁴ In addition to recommending a cumulative impacts analysis, this same letter from EPA to EGLE also recommended that the Michigan regulator conduct continuous monitoring to assure compliance with relevant licensing requirements.¹²⁵ The NRC should consider recommending the same to its applicants to avoid making any decisions that would affect environmental justice communities on the basis of assumptions rather than real data.

¹²¹ MAKING REGULATIONS FAIR, *supra* note 89, at 23–27.

¹²² See, e.g., NUREG-2239, Texas Interim Storage Facility EIS, *supra* note 61, at 5–49 (explaining that there are a number of other energy development projects in the area and that NRC Staff “anticipates” they will operate according to “Federal and State license and permitting requirements” and so “would not have a disproportionately high and adverse effect” on environmental justice communities).

¹²³ Kimberly M. Castle & Richard L. Revesz, *Environmental Standards, Thresholds, and the Next Battleground of Climate Change Regulations*, 103 MINN. L. REV. 1349, 1390–97 (2018) (explaining that EPA has identified health benefits from reducing pollutant levels below the legal standard for almost all of its regulated criteria pollutants and that there are health risks associated with exposure to criteria pollutants at levels below the NAAQS).

¹²⁴ See Policy Integrity Natural Gas Comments, *supra* note 23, at 54–56. Reliance on NAAQS compliance to find no adverse impact may be particularly inappropriate for assessing impacts to populations that are sensitive to lower levels of pollution, including those with respiratory and other health issues. Castle & Revesz, *supra* note 123, at 1354, 1374.

¹²⁵ EPA Letter to EGLE, *supra* note 119, at 2.

Relatedly, the NRC should consider both direct and indirect effects as part of its assessment of cumulative effects on environmental justice communities. In its proposed revisions to the NEPA implementing regulations, the Council on Environmental Quality states that restoring the definition of “effects,” which was changed in 2020, to include both direct and indirect effects “ensure[s] that the NEPA process fully and fairly considers the appropriate universe of effects, such as . . . effects on communities with environmental justice concerns.”¹²⁶

IV. Conclusion

The Commission must seize this opportunity to better facilitate meaningful participation by environmental justice communities in its programs, policies, and activities. Enhanced engagement will improve decisionmaking and outcomes by providing information necessary for an adequate NEPA analysis and helping the NRC act to ensure the health and safety of the public, as required by the AEA. The Commission should look to other agencies that are also taking a hard look at their own practices for engagement and environmental justice analysis and learn from the breadth of comments and recommendations already being provided. FERC is a particularly good example because it is also a highly technical independent agency, and has already received significant input. The Commission must also use this opportunity to improve its analytical framework and methodology for identifying environmental justice communities and assessing and addressing impacts. Utilizing the right tools in an environmental justice assessment is imperative to ensuring the NRC meets its obligations under NEPA and protects already overburdened communities from further disproportionate harm.

Sincerely,

Laura A. Figueroa, Legal Fellow
Sarah Ladin, Attorney
Iliana Paul, Senior Policy Analyst

Attached:

- 1) Comments of the Inst. for Pol’y Integrity at New York University School of Law, *The Office of Public Participation*, Docket No. AD21-9 (Apr. 23, 2021)

¹²⁶ National Environmental Policy Act Implementing Regulations Revisions, 86 Fed. Reg. 55,757, 55,763 (proposed Oct. 7, 2021).

- 2) FED. ENERGY REGUL. COMM'N, REPORT TO CONGRESS ON THE OFFICE OF PUBLIC PARTICIPATION (2021)
- 3) Comments of the Inst. for Pol'y Integrity at New York University School of Law, *Certification of New Interstate Natural Gas Facilities*, Docket No. PL18-1 (May 26, 2021)
- 4) JACK LIENKE ET AL., MAKING REGULATIONS FAIR: HOW COST-BENEFIT ANALYSIS CAN PROMOTE EQUITY AND ADVANCE ENVIRONMENTAL JUSTICE (2021)