Choosing between Environmental Standards and a Rapid Transition to Renewable Energy Is a False Dilemma

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May 2023

About the Author

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Acknowledgments

The author thanks Roosevelt staff Kristina Karlsson, Rhiana Gunn-Wright, Suzanne Kahn, and Sonya Gurwitt for their contributions to this project.

Introduction

In March, the International Panel on Climate Change (IPCC) issued its Sixth Assessment Report. The report contained an unmistakable theme: Rapid, deep, and immediate greenhouse gas emission reductions must be achieved this decade in order to limit warming to between 1.5° and 2° Celsius.[1] Consistent with this reality, the Biden administration has set an ambitious US goal of achieving a 50 to 52 percent reduction in greenhouse gas pollution from 2005 levels by 2030, as a step toward net zero by 2050. As an intermediate milestone, President Biden set a goal of reaching 100 percent carbon-pollution-free electricity by 2035.

Several studies indicate that this target is ambitious but achievable using current technology. As one report described, "there is widespread and growing consensus among experts and practitioners that achieving 80 percent clean electricity by 2030 is technologically feasible without compromising reliability and affordability."[2] Achieving an 80 percent clean grid by 2030 will require roughly 950 gigawatts (GW) of wind and solar to be built, sited, and connected to the grid within the next decade.[3] By comparison, the size of today's power sector is approximately 1,000 GW.[4]

The sheer scale of these challenges, combined with the unrelenting sense of urgency to respond to climate change, has led some people to conclude that the only way to achieve a rapid deployment of clean energy is to forego elements of permitting and enforcement of environmental standards. The most common target is the National Environmental Policy Act (NEPA), which is often blamed for creating delays during the permitting process. For example, Jeremy Harrell, the Chief Strategy Officer for ClearPath, a renewable energy development company, recently asserted that "it can now take six years to permit carbon dioxide storage locations . . . 16 years to permit an offshore windfarm . . . and up to 15 years for a new

[1] International Panel on Climate Change, Sixth Assessment Report, Summary for Policymakers 21, B.6 (Mar. 2023). This white paper draws heavily from written testimony that the author submitted to the House Natural Resources Subcommittee on Oversight and Investigations on May 11, 2023.

[2] Energy Innovation, A National Clean Electricity Standard to Benefit All Americans 1 (Apr. 2021); Nikit Abhyankar et al., 2030 Report: Powering America's Clean Economy: A Supplemental Analysis to the 2035 Report (Apr. 2021) (using the latest renewable energy and battery cost data to demonstrate the technological and economic feasibility of achieving 80 percent clean (carbon-free) electricity in the United States by 2030).

[3] *Id*. at 19; Eric Larson et al., Princeton University, Net Zero America: Potential Pathways, Infrastructure, and Impacts (Oct. 2021) (projecting a need for 850 GW of solar and wind energy for a high electrification scenario and projecting that a 76 percent increase in transmission would be needed); Nikit Abhyankar et al., 2030 Report: Powering America's Clean Economy: A Supplemental Analysis to the 2035 Report 7, 28 (Apr. 2021) (estimating that 950 GW of new wind and solar generation and over 225 GW of battery storage capacity must be built, averaging about 120 GW of new capacity per year to achieve 80 percent clean energy by 2030).

[4] Nikit Abhyankar et al., 2030 Report: Powering America's Clean Economy: A Supplemental Analysis to the 2035 Report 28 (Apr. 2021).

transmission line."[5] These anecdotal numbers capture headlines, but they do not accurately reflect how long NEPA analysis actually takes.

Research shows that the anecdotal examples of four- to ten-year timelines to complete a NEPA analysis are the exception, not the rule. Most NEPA decisions are made within a reasonable time for the complexity of the project, and the analytical rigor applied to a project is tailored to the intensity of a project's impacts. However, efficiency, predictability, and transparency within the NEPA process could be improved. A wide body of research indicates that most delays in the NEPA process are functional, not regulatory. Insufficient staff, unstable budgets, vague or incomplete permit applications, waiting for information from a permit applicant, or poor coordination among permitting authorities are the primary causes of delay. These unproductive causes of delay can be addressed without eliminating environmental standards, analytical rigor, or community engagement.

Finally, research also shows that NEPA serves as an umbrella statute, facilitating compliance with other laws. Eliminating NEPA's procedural requirements could compromise its capacity to facilitate compliance with other laws. Instead of streamlining the permit process, this would increase the risk that projects will encounter delays caused by a lack of coordination between permitting authorities, especially for projects with overlapping laws and regulatory standards. In summary, there are ways to make the permitting process more efficient, transparent, and predictable. However, to achieve those objectives, the solutions must be tailored to the problems.

This issue brief describes the role NEPA plays during the permitting process, explains the evidence regarding NEPA decision-making times (spoiler alert: they are shorter than critics claim), and identifies the true causes of delay that plague permitting processes. It also explores reforms that have a demonstrated track record for improving transparency, predictability, and timeliness in permitting times without compromising environmental standards or public participation. Finally, the brief closes with a reminder of what is at stake: The climate crisis requires prompt attention, and efficiency in permitting is paramount. However, that does not mean that every project deserves quick approval. The permitting process ensures that projects adhere to minimum standards designed to protect human health, safety, property, and the environment. These standards protect the air we breath, the water we drink, and the soil in which we grow our food—crucial resources for a sustainable future. Degrading these resources in our haste to build renewable energy infrastructure

[5] Written Testimony of Jeremy Herrell, ClearPath Inc., US Committee on Natural Resources, Subcommittee on Oversight and Investigations, "The Biden Administration's Executive Overreach and Its Impact on American Energy Independence" (May 11, 2023).

would repeat the mistakes of the past. And as we have learned from decades of climate denialism, ignoring environmental risks does not make them go away.

I. What is the National Environmental Policy Act?

The National Environmental Policy Act (NEPA) was passed unanimously and signed into law on January 1, 1970. Six months earlier, the Cayahoga River had burst into flames due to unregulated dumping.[6] The river was so saturated with sewage and industrial waste that one reporter explained that it "oozes rather than flows."[7] NEPA marked a new era, one with a national environmental policy to "promote efforts which will prevent or eliminate damage to the environment and the biosphere and stimulate health and welfare of man."[8] Unlike other laws that focus on specific resources such as water, air, or wildlife, NEPA focuses on the decision-making process. As one federal court explained, "perhaps the greatest importance of NEPA is to require . . . agencies to consider environmental issues just as they consider other matters within their mandates."[9]

Prior to NEPA's enactment, agencies were free to implement decisions without regard to the collateral damage on communities or natural resources. For example, the Federal Highway Act of 1956 initiated construction of the interstate highway system.[10] Focused on speedy implementation, the Department of Transportation routed highways through low-cost, low-opposition lands, which tended to be parks, historic sites, recreation areas, and working-class or low-income neighborhoods. As a result, low-income communities were disproportionately harmed during the build-out of the interstate highway system.[11] One example is a segment of I-95 that cut through an inner city community outside of Miami, Florida. Overtown, known at the time as the "Harlem of the South," was a thriving black community.[12] The selected route for I-95 cut straight through it, even though a less destructive route along a nearby abandoned railroad corridor was available.[13] In a 2009 report, the Federal Highway Administration acknowledged that the selected route "had a disastrous

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[6] Jennifer Larson, *The Burning River That Sparked a Revolution*, The Times (June 22, 2015).

[7] *Id.*

[8] 42 U.S.C. § 4321.

[9] *Calvert Cliffs' Coordinating Comm. Inc. v. Atomic Energy Comm'n*, 449 F.2d 1109, 1112 (D.C. Cir. 1971).

[10] Linda Luther, Cong. Res. Serv., The Role of the Environmental Review Process in Federally Funded Highway Projects: Background and Issues 6-7 (Apr. 2012).

[11] Farrell Evans, *How Interstate Highways Gutted Communities—and Reinforced Segregation*, History (Oct. 20, 2021) (noting that an estimated 475,000 households and a million people were displaced nationwide due to highway construction).

[12] *Id.*

[13] Hillary Simmons, *The Heart of "Harlem of the South*, The Beacon (Dec. 28, 2020), *available at* https://mastthebeacon.wordpress.com/2020/12/28/the-heart-of-harlem-of-the-south/ (last visited May 17, 2023).

impact on the economic and social structure of the community," with lingering effects that to this day fuel anger, resentment, and distrust toward the Department of Transportation.[14]

Many other communities have suffered similar fates due to one-sided planning focused on finding the cheapest route, without regard to collateral impacts. As one group of scholars described, "Take any major American city, and you're likely to find a historically Black neighborhood demolished, gashed in two, or cut off from the rest of the city by a highway."[15] The disclosure requirements imposed through NEPA were intended to avoid these kinds of ill-advised and harmful uses of federal power and funding. As the nation considers how to build a new interstate energy infrastructure system, the lessons of the past should serve as a cautionary tale.

NEPA's "look before you leap" mandate requires agencies to disclose environmental impacts, weigh alternatives, and consider public comment before committing public resources to a course of action.[16] It is often referred to as the Magna Carta of environmental law due to its broad influence over agency decision-making.[17] Although NEPA requires deliberation and transparency, it does not dictate outcomes—an agency is not obligated to select the most environmentally sound decision.[18] It is, however, required to tell the public what it is about to do. As the Congressional Research Service summarized, "one of the primary goals of NEPA is to give the public a meaningful opportunity to learn about and comment on the proposed actions of the federal government *before* decisions are made and actions are taken."[19] With

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[14] Linda Luther, Cong. Res. Serv., The Role of the Environmental Review Process in Federally Funded Highway Projects: Background and Issues 6-7 (Apr. 2012).

[15] Rachael Dottle, Laura Bliss, and Pablo Robles, *What It Looks Like to Reconnect Black Communities Torn Apart by Highways*, Bloomberg (July 28, 2021).

[16] *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 349 (1989) ("The statutory requirement that a federal agency contemplating a major action prepare such an environmental impact statement serves NEPA's action-forcing purpose in two important respects. It ensures that the agency, in reaching its decision, will have available, and will carefully consider, detailed information concerning significant environmental impacts; it also guarantees that the relevant information will be made available to the larger audience that may also play a role in both the decisionmaking process and the implementation of that decision." [internal citations and quotations omitted]); *Baltimore Gas & Elec. v. Nat. Res. Def. Council*, 462 U.S. 87, 97 (1983) ("NEPA has twin aims. First it places upon an agency the obligation to consider every significant aspect of the environmental impact of a proposed action. Second it ensures that the agency will inform the public that it has indeed considered environmental concerns in its decisionmaking process." [internal citations and quotations omitted]).

[17] Daniel Mandelker et al., NEPA Law and Litigation §§ 1.1 (2021) [*hereinafter* Mandelker et al., NEPA Law and Litigation] (describing NEPA as an "environmental Magna Carta that has profoundly influenced decision-making by federal agencies).

[18] *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 350 (1989) ("Although these procedures are almost certain to affect the agency's substantive decision, it is now well settled that NEPA itself does not mandate particular results, but prescribes the necessary process.")

[19] Cong. Res. Serv., The National Environmental Policy Act (NEPA): Background and Implementation 22 (Jan. 10, 2011)

hundreds of federal agencies making thousands of decisions annually, NEPA can drive vast individual, incremental, and cumulative changes to federal actions that result in reduced environmental impacts.[20] As Congressman Mike Quigley (D-IL) once observed, NEPA "has provided the foundation for countless improvements in our environmental laws. It gives us cleaner water, cleaner air, and a safer and healthier environment."[21]

NEPA's implementing regulations use a tiered framework in which the rigor of disclosure is consistent with the intensity of a project's impact.[22] Actions with significant environmental impacts require comprehensive disclosures and rigorous analysis, referred to as Environmental Impact Statements (EISs). Meanwhile, projects with well-understood or insignificant impacts undergo expedited review, referred to as Categorical Exclusions (CEs). Projects with uncertain impacts have a medium level of disclosure, referred to as an Environmental Assessment (EA). In other words, the NEPA process is not one-size-fits-all. Simple projects have simple procedures, and complex projects with significant consequences undergo rigorous analysis. NEPA's disclosure process creates an enforceable mechanism to explore whether a potentially harmful project can be adjusted to avoid, reduce, or mitigate harmful consequences.

While NEPA's detractors often characterize its procedures as radical, the requirements imposed by NEPA are consistent with risk management strategies that we use in many other aspects of our society. Transparency helps identify and mitigate risk that would otherwise remain hidden. For example, recent bank failures have brought attention to bank disclosure obligations, which are tailored to the size of the bank.[23] In very simplified terms, the rigor of disclosure is consistent with the risk of potential financial harm caused by mismanagement. The same is true of NEPA. The rigor of disclosure is consistent with the risk of potential environmental harm caused by implementing a project. As we have seen with recent bank failures, disclosures serve an important function that mitigates risk. The banking crisis

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[20] *See generally*, US Gov't Accountability Off., GAO-14-370, Report to Congressional Requesters: National Environmental Policy Act: Little Information Exists on NEPA Analyses, 1 (Apr. 2014) [hereinafter GAO, NEPA: Little Information Exits] (describing the NEPA process and concerns over compliance burdens). *See generally*, John Ruple & Mark Capone, *NEPA—Substantive Effectiveness Under a Procedural Mandate: Assessment of Oil and Gas EISs in the Mountain West*, 40 Geo. Wash. J. Energy & Envtl. L. 39 (2016) (documenting reductions in environmental impact that occurred between draft and final environmental impact statements).

[21] Recognizing the Importance of the National Environmental Policy Act, 113 Cong. E1637 (2013) (Statement of Rep. Quigley).

[22] For a scholarly discussion of NEPA's regulatory structure, see John C. Ruple et al., *Evidence-Based Recommendations for Improving Implementation of the National Environmental Policy Act*, 46 Colum. J. Envt'l L. 273, 282 (2022).

[23] For two accessible discussions about bank disclosure obligations, see Michael Barbaro, *A Third Bank Implodes, Now What?* The Daily (May 2, 2023); Michael Barbaro, *Barney Frank on His Role in the Banking Crisis*, The Daily (Mar. 22, 2023).

provides a timely reminder to be cautious about eliminating or shortchanging disclosure obligations. Secrecy allows risky decisions to escape scrutiny.

II. How Long Does NEPA Really Take?

Last year, my colleagues, John Ruple, Erik Heiny, and I analyzed 41,000 NEPA decisions made by the Forest Service between 2004 and 2020 at all three levels of analysis.[24] This is one of the most comprehensive investigations into NEPA decision-making times that has been undertaken.[25] The Forest Service is the only agency that collects comprehensive, reliable data regarding NEPA decision-making at all levels of review. Additionally, the Forest Service conducts more EISs than any other agency. For these reasons, information regarding its practices is instructive for understanding the NEPA process across agencies.

The first question we sought to answer was, "how long does the NEPA process actually take?" We found that the median time to complete an EIS was 2.8 years. For an EA, it was 1.2 years. And for a CE, the median was only 4 months.[26] These evidence-based timelines are much shorter than the anecdotal timeframes that are often used in public debate.

Notably, only 2 percent of all decisions were made through an EIS.[27] The other 98 percent of NEPA decisions faced less rigorous review. The median time for projects with well-understood and insignificant impacts was only four months. To put this in perspective (in very rough numbers), during the 16 years that we studied, there were only about 200 total projects that took longer than four years. In contrast, there were over 31,000 that were finished in less than a year.

NEPA's tiered analytical requirements make sense. Projects with insignificant and well-understood impacts should receive quick approval, and the research shows that they usually do. On the other hand, projects that will impose significant impacts on communities, create hazards to health, threaten clean water, compromise clean air, or destroy natural resources deserve more rigorous review.

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[24] Ruple et al., *Evidence-Based Recommendations for Improving NEPA Implementation*, *supra* note 22 at 294.

[25] *See also* Forrest Fleischman et al., *U.S. Forest Service Implementation of the National Environmental Policy Act: Fast, Variable, Rarely Litigated, and Declining,* 118 J. of Forestry 403, 408 (2020) (conducting a descriptive analysis of a slightly different set of data from the Forest Service MYTR database); Exec. Office of the President, Council on Env't Quality, Environmental Impact Statement Timelines (2010-2018) 1 (June 12, 2020) (providing description of government-wide EIS decisionmaking times).

[26] *Id*. at 293.

[27] *Id*. at 289. *See also* Government Accountability Office, GAO-14-379, National Environmental Policy Act: Little Information Exists on NEPA Analyses 8 (Apr. 2014) (estimating that government-wide, less than 1 percent of NEPA decisions are EISs, 5 percent are EAs, and 95 percent are CEs).

III. Research Does Not Substantiate the Claim that NEPA's Procedures Cause Delay

Multiple studies have found that the NEPA analysis is rarely the primary cause of delay, even though delays may be reflected in the NEPA process.[28] Analysis on a project may stop and restart for external reasons such as funding, engineering requirements, changes in agency priorities, delays in obtaining non-federal approvals, or political opposition to the project.[29] These delays create the appearance of a long NEPA process, even though the NEPA analysis did not cause the delay.[30] For example, when researching Forest Service decisions, we found multiple examples of projects that were paused due to budget restrictions.[31] These pauses create the appearance of a long NEPA process, but the delay was caused by budget restrictions that halted progress on the analysis—not by the analytical process itself.

Additionally, the NEPA process may provide the structure for multiple different and independent permitting decisions. As the Congressional Research Service observed, "Most agencies use NEPA as an umbrella statute—that is, a framework to coordinate or demonstrate compliance with any studies, reviews, or consultations required by any other environmental laws."[32] This can create confusion because the need to comply with another law may be identified during the NEPA process, but NEPA is not the source of the obligation.[33] In fact, there is some evidence that the structure provided by the NEPA analysis actually reduces

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[28] Ryan Sud, Sanjay Patnaik & Robert Glicksman, The Brookings Institute, How to Reform Federal Permitting to Accelerate Clean Energy Infrastructure: A Nonpartisan Way Forward 14 (Feb. 2023).

[29] Government Accountability Office, GAO-14-379, National Environmental Policy Act: Little Information Exists on NEPA Analyses 15 (Apr. 2014); Linda Luther, Cong. Res. Serv., R4279, The Role of the Environmental Review Process in Federally Funded Highway Projects: Background and Issues for Congress 9 (Apr. 11, 2012) ("The environmental review process may start, stop, and restart for reasons unrelated to environmental issues. Local and state issues have shown to have the most significant influence on whether a project moves forward relatively quickly or takes longer than anticipated.")

[30] Executive Office of the President, Council on Environmental Quality, Environmental Impact Statement Timelines (2010-2018) 2 (June 2020) ("For some EISs, the timeline does not represent continuous activity. Delays may be attributable to the agency, the applicant, Congress, the needs of cooperating agencies, States, Tribes, and local interests, or public controversy."); John C. Ruple, Jamie Pleune & Erik Heiny, *Evidence-Based Recommendations for Improving NEPA Implementation,* 46 Colum. J. Envt'l L. 273, 304 (2022) [*hereinafter* Ruple et al. *Evidence-Based Recommendations for Improving Implementation of NEPA*] (conducting a detailed analysis of NEPA decision-making times and observing that complex projects can be completed quickly and simple projects subject to a truncated NEPA analysis may encounter delays); Executive Office of the President, Council on Environmental Quality, Environmental Impact Statement Timelines (2010-2018) 8 (June 2020).

[31] Ruple et al. *Evidence-Based Recommendations for Improving Implementation of NEPA supra* note 22 at 329-330.

[32] Cong. Res. Serv, RL 33152, The National Environmental Policy Act (NEPA): Background and Implementation 1 (Jan. 10, 2011).

[33] *Id.*; *see also* Ruple et al. *Evidence-Based Recommendations for Improving Implementation of NEPA supra* note 22 at 317-322 (exploring this dynamic with the National Forest Management Act).

decision-making times.[34] A study reviewing 607 federal rules designating critical habitat for species that are protected under the Endangered Species Act found that designations that incorporated a NEPA review were completed on average three months *faster* than the decisions that skipped the NEPA process.[35] The NEPA process created an organizing structure that facilitated, rather than hindered, efficient analysis to justify a decision.

The NEPA process also creates an opportunity to discover and mitigate concerns with a proposed project before finalizing an action, which can often avoid litigation that could delay implementation of an action.[36] For example, in 2012, the Forest Service completed the 4FRI EIS.[37] The project's goal was to restore the ponderosa pine forest stretching across northern Arizona, while reducing communities' exposure to wildfire threats, rehabilitating ecosystems, and sustaining the forest industry operating in local communities.[38] The EIS analyzed the largest number of acres in Forest Service history, stretching across four different national forests, for restoration-based mechanical forest treatments.[39] Despite its ambitious scale, the EIS was completed more quickly than the average timeframe for EISs completed that year, and when it came time for implementation, the Forest Service was not delayed by litigation. Using the NEPA process as an opportunity for collaborative decision-making developed consensus among diverse stakeholders, which had long-term benefits and ultimately sped up implementation of the project.

Although NEPA's detractors often blame litigation for delay, the evidence shows that litigation is rare. Government-wide, only an estimated 0.22 percent of NEPA decisions are litigated.[40] An investigation by the Government Accountability Office (GAO) regarding Forest

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[34] John C. Ruple et al., *Does NEPA Help or Harm ESA Critical Habitat Designations? An Assessment of Over 600 Critical Habitat Rules*, 46 Ecology L.Q. 829, 842 (2019) (finding that critical habitat designations subject to NEPA review were completed an average of 93 days faster than those that were not subject to NEPA review).

[35] *Id.*

[36] *Id.* at 340-341; Pleune, *Playing the Long Game*, *infra* note 43, 52 Env. L. Rep. at 10905-10904 ("without providing an opportunity to raise concerns during the [NEPA] scoping process, stakeholders may raise concerns late in the process or through litigation . . . [and] some of those concerns may require collecting additional baseline data that may have been easily collected at the beginning of the permitting process").

[37] Ruple et al., *Evidence-Based Recommendations for Improving Implementation of NEPA supra* note 22 at 338.

[38] *Id.*

[39] Ruple et al., *Evidence-Based Recommendations for Improving Implementation of NEPA supra* note 22 at 338.

[40] John C. Ruple & Kayla M. Race, *Measuring the NEPA Litigation Burden: A Review of 1,499 Federal Court Cases*, 50 Envtl. L. 479, 497-99 (2020); David Adelman & Robert L. Glicksman, *Presidential and Judicial Politics in Environmental Litigation*, 50 Ariz. St. L.J. 3, 7 (2018) (conducting an empirical study of NEPA litigation during the presidencies of George W. Bush and Barack Obama and observing, "[w]e find little evidence that litigation under NEPA is out of control or that NEPA's processes are overly burdensome"); John C. Ruple & Heather Tanana, *Debunking the Myths Behind the NEPA Review Process*, 35 Nat. Res. & Env't 14, 15 (2020); Forrest Fleischman et al., *Forest Service Implementation of the National Environmental Policy Act: Fast, Variable, Rarely Litigated, and Declining*, 118 J. Forestry 403, 404 (2020).

Service fuel-reduction projects from fiscal years 2006 to 2008 revealed that only 29 out of 1,415 decisions were litigated, and litigation impacted only 1 percent of lands slated for fuel reduction projects.[41] In other words, used properly, the NEPA process is more likely to avoid potential litigation than cause it. Proposed reforms like short deadlines and page limits threaten to undermine NEPA's capacity to serve as a flexible tool for structured and transparent deliberation.

The NEPA process can also reduce costs by identifying design problems before implementation of a project begins. A study prepared for the Transportation Research Board emphasized this potential benefit: "Spending more monies during planning and design will reduce the time and cost required for construction by avoiding unforeseen conditions, reducing to a minimum design errors and omissions, and developing schemes that will support the most efficient approach to construction."[42] For these reasons, projects exempted from NEPA may not be faster or cheaper. Instead of achieving speed by exempting projects from NEPA, permit reform should distinguish between productive and unproductive delays in the permitting process,[43] and focus on eliminating the latter.

IV. True Causes of Delay Can Be Addressed without Compromising Environmental or Safety Standards

Permit reform should be driven by accurate data that defines the scope of the problem. The available data indicates that only a small percentage of NEPA decisions encounter excessive delays of the type that are commonly relied upon as anecdotal evidence.

For example, in 2016, the GAO studied processing times for mine permit applications.[44] Between 2010 and 2014, the Bureau of Land Management (BLM) and the Forest Service approved 68 mine plans of operations.[45] The majority (55 percent) were processed in less than 18 months, and 63 percent were processed in under two years. The remaining 37 percent were

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[41] Gov't Accountability Off., GAO 10-227, Forest Service, Information on Appeals, Objections, and Litigation Involving Fuel Reduction Activities, Fiscal Years 2006 through 2008 1 (2010).

[42] Linda Luther, Cong. Res. Serv. R.42479, The Role of the Environmental Review Process in Federally Funded Highway Projects: Background and Issues for Congress 36 (Apr. 2012) (citing H.R. Thomas and R.D. Ellis, *Avoiding Delays During the Construction Phase of Highway Projects,* Transportation Research Board, National Research Council, NCHRP 20-24 (Oct. 2001).

[43] Jamie Pleune, *Playing the Long Game: Expediting Permitting Without Compromising Protections*, 52 Env. L. Rep. 10893, 10896-07 (2022) [*hereinafter* Pleune, *Playing the Long Game*].

[44] GAO, Hardrock Mining: BLM and Forest Service Have Taken Some Actions to Expedite the Mine Plan Review Process but Could Do More 6-7 (2016).

[45] For a brief overview of the mine permitting process, which includes approval of a mine plan of operations, see Pleune, *Playing the Long Game supra* note 43 at 10901-10904.

spread across a wide timeframe, with only six applications (less than 10 percent) taking longer than four years.

A similar trend is visible in the Forest Service data. Only the slowest 25 percent of EISs (those in the 75th percentile) took longer than four years.[46] In contrast, the fastest 25 percent of EISs (those in the 25th percentile) took just over 1.5 years.[47] Additionally, very few projects were subject to the rigorous analysis required in an EIS. There were only 807 EISs over 16 years. In contrast, 33,443 decisions were analyzed through CEs. The fastest 25 percent of CEs were completed in 54 days, while the slowest 25 percent of CEs (those in the 75th percentile) took 245 days (0.7 years). This data brings the big picture in focus: The commonly cited statistic that permits take six years actually refers to less than 1 percent of all NEPA decisions.

Moreover, analytical rigor does not appear to be the primary cause of delay.[48] When we used a regression model to identify causes of delay. We learned that NEPA-specific factors[49] could not predict whether a project would encounter a delay.[50] Instead, the most common causes of delay were functional and external to the NEPA analysis. Those were: (1) agency capacity, which includes both staff availability and appropriate expertise; (2) delays attributable to the operator, including waiting for information, changed plans of operation, and shifting priorities; and (3) compliance with other laws, which includes coordination with other permitting authorities.[51]

Notably, both the GAO and the National Research Council made the same observations regarding delays in the mine permit application process.[52] Three prominent causes of delay were: (1) insufficient resources, including staff, expertise, funding, or technology; (2) waiting for operator responses following vague applications or changes to a mine plan; and (3) compliance with other legal standards and/or ineffective agency coordination during the mine plan review process.[53]

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[46] Ruple et al., *Evidence Based Recommendations for Improving NEPA supra* note 22 at 297.
[47] *Id*.
[48] *Id*. at 302-303.
[49] The regression model enabled us to isolate the influence of the following NEPA-specific variables: (1) level of analysis; (2) the year when the project was initiated; (3) any combination of 43 separate activities involved in project implementation; and (4) the nine Forest Service Regions exercising responsibility over the NEPA analysis for the project. *Id*. at 297.
[50] *Id.* at 300-306.
[51] *Id*. at 306-322.
[52] Gov't Accountability Off., GAO-16-165, Hardrock Mining: BLM and Forest Service Have Taken Some Actions To Expedit the Mine Plan Review Process but Could do More (2016); National Research Council, Hardrock Mining on Federal Lands (1999).
[53] *See* Pleune, *Playing the Long Game supra* note 43 at 10900-10906 (discussing these studies).

Even permits that can be processed quickly are affected by these factors. A 2014 investigation by the Office of Inspector General into permit processing times for oil and gas wells emphasizes this point.[54] BLM receives approximately 5,000 new Applications for Permit to Drill (APD) each year, which are processed at 33 different field offices. Within the NEPA process, these permit applications are usually analyzed through a CE, the least rigorous level of review.[55] According to the BLM, the average processing time in 2012 was 228 days, but this number only tells part of the story. Even though each field office is governed by the same legal standard, the permit processing times varied widely. Buffalo, WY and Miles City, MT took more than 300 days to process permits. In contrast, five field offices took less than 100 days. Anchorage, AK averaged 37 days.

This dramatic variation in permit processing times cannot be blamed on NEPA or environmental standards because each field office was applying the same legal standard to the same activity. Sources of delay were a lack of staff, weaknesses in project management and oversight, and poor data management.[56] Even though BLM had repeatedly identified staffing shortages as a problem, limited budgets combined with a high cost of living made it difficult to attract and retain employees. Field offices with staff shortages experienced prolonged review times. Permit coordination and management also mattered. Most field offices did not assign a manager to oversee the APD process, resulting in an open-ended process in which applications languished and no one could predict when the application would be finished. Field offices that did assign field managers processed permits in less than half the average time.[57] Finally, the data management system used by the BLM hampered productivity. Staff could not readily determine or track the status of a permit, the data reliability was questionable, and some field offices still used paper files to track APD permits. In other words, the most important factors for improving permit processing times were functional, not regulatory.

Another source of delay is waiting for information from an operator following a vague or incomplete application. According to an investigation conducted by the GAO in 2016, this was

[54] Office of Inspector General, Department of the Interior, Onshore Oil and Gas Permitting, US Dept. of Int., Report No. CR-EV-MOA-0003-2013 (June 2014).

[55] To read more about the NEPA process for oil and gas leasing decisions, see Ruple et al., *Evidence-Based Recommendations for Improving NEPA supra* note 22 at 310-317.

[56] Office of Inspector General, Department of the Interior, Onshore Oil and Gas Permitting, US Dept. of Int., Report No. CR-EV-MOA-0003-2013, 16 (June 2014).

[57] The Field Office in Silt, CO, which uses supervisors, averaged 108 days in FY2012. In contrast, the bureau-wide average was 228 days. The field office in Carlsbad, NM uses a field manager, as well as an in-house automated tracking system. Its processing times average 110 days. *Id*. at 7.

the biggest source of delay in processing mine permit applications.[58] The BLM began quantifying this phenomenon by tracking the amount of time BLM spent waiting for an operator to provide information versus the time it spent analyzing an APD.[59] For nine out of the ten published years (2012 to 2020), the BLM spent more time waiting for an operator to provide information than it spent reviewing the APD. In some years, the BLM spent almost twice as much time waiting for an operator as it spent analyzing the APD.

The consistency of these findings across time, agencies, and practice constitute reliable evidence as to the real causes of delay in permit processing. These delays can be summarized as: (1) agency capacity, (2) delays attributable to the operator, and (3) permitting coordination. These findings demonstrate that the choice between speed and environmental standards is a false dilemma. Each of the true sources of delay can be addressed without compromising environmental standards that protect safe, healthy, and clean communities.

V. Permit Reform That Addresses the True Causes of Delay

We can improve permit processing times by bolstering agency capacity, fostering early communication with permit applicants, and improving permit coordination. Notably, improved communication and better coordination depend on sufficient agency capacity. So the first step for permit reform should be to focus on agency capacity.

1. Building agency capacity requires long-term funding and strategic workforce planning.

Wisely, Congress has already taken a step in the right direction. The Inflation Reduction Act (IRA) contained roughly $700 million directed toward improving agencies' environmental review processes and NEPA implementation. These funds are a critical—and encouraging—first step; however, the journey is not over. Agencies must rebuild from chronic shortages. Additionally, the funding must be reliable and sustained to allow agencies to implement strategic workforce plans, retain experienced staff, and engage in proactive planning that can facilitate faster decision-making.

[58] Gov't Accountability Off., Hardrock Mining: BLM and Forest Service Have Taken Some Actions to Expedite the Mine Plan Review Process But Could Do More 23 (2016); Pleune, *Playing the Long Game supra* note 43 at 10902.
[59] Ruple et al., *Evidence-Based Recommendations for Improving NEPA supra* note 22 at 313-314.

Many agencies that were already understaffed suffered extreme losses of staff under the Trump administration. BLM offers an instructive case study.[60] Since 2011, it has been on the GAO's list of programs at high risk and vulnerable to waste, fraud, and abuse due in part to a lack of staff. This problem was further exacerbated in July 2020 when the Trump administration abruptly decided to relocate BLM's headquarters from Washington, DC to Grand Junction, CO. The Headquarters Office, which develops guidance and regulations, should be staffed by 311 career positions. However, it was already severely understaffed, with 132 vacant positions, before the relocation announcement. In response to the relocation announcement, 81 more staff left, which brought the leadership team down to 31 percent capacity. The reorganization plan dispersed the remaining members of the leadership team among multiple offices.

Numbers alone do not tell the whole story. The BLM also suffered a loss of experienced staff during this period. Every BLM staff member interviewed reported that the loss of experienced staff negatively affected their office's ability to conduct its duties. For example, the loss of institutional knowledge about laws and regulations meant that the BLM could not provide knowledgeable input on proposed rules and legislation. Other staff admitted that the rapid loss of experienced staff hindered knowledge transfer. In a follow-up report a year later, all BLM staff interviewed by the GAO reported challenges in completing their duties due to headquarter vacancies. As a result of delays in creating or clarifying guidance or policies, some staff relied on outdated policy guidance to make decisions. Other staff reported delays implementing upgrades to information technology systems, which GAO had previously recommended be updated. As expected, these institutional challenges affected permitting times. Applicants could not receive good guidance from experienced staff, and staff members processing permits had little instruction on how to proceed effectively. The BLM is not alone. Multiple agencies with permitting or infrastructure responsibilities are short-staffed and underfunded.

Filling vacancies requires strategic workforce planning, but few agencies have engaged in that process. When the GAO investigated the BLM's workforce planning in 2020, it found that the BLM had no way of tracking vacancies and no recruitment plan for filling vacancies.[61] When asking for data on the total number of positions and vacancies agency-wide, the GAO

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[60] This discussion draws heavily from the following article: Jamie Pleune & Ted Boling, *This Permit Reform Works. Why Aren't More Mine Projects Using It?* ___ Envt'l L. Rep. ___ (forthcoming June 2023) [*hereinafter* Pleune & Boling, *This Permit Reform Works*]. *See also* Gov't Accountability Off., GAO-20-379R, Bureau of Land Management: Agency Reorganization Efforts Did Not Substantially Address Key Practices for Effective Reforms (Mar. 6, 2020) and Gov't Accountability Off., GAO-22-104247, BLM, Better Workforce Planning and Data Would Help Mitigate the Effects of Recent Staff Vacancies (Nov. 2021).

[61] Government Accountability Office, Bureau of Land Management: Agency Reorganization Efforts Did Not Substantially Address Key Practices for Effective Reforms GAO-20-379R, 10 (Mar. 6, 2020).

was told that BLM does not maintain a list of vacancies for state offices. As a result, it was not possible to determine the proportion of positions that are vacant at any given time or the specific positions that are vacant. This lack of information obviously creates a problem for improving capacity in a way that results in improved efficiency. Strategic workforce planning is critical to ensuring that agencies spend wisely and build a workforce capable of fulfilling agency missions. The Army Corps of Engineers developed a comprehensive strategic workforce plan in 2017 that demonstrates how this type of planning can achieve long-term efficiencies at all levels of agency operations.[62] Additionally, agencies must be confident that the funding will not disappear. Unstable budgets do not build durable workforces. This is important to keep in mind as some legislators seek to claw back funds allocated in the IRA. Shortchanging agencies of staff and funding will cause delays in the permitting process.

2. Pre-application meetings, early stakeholder engagement, permit sequencing, and transparent schedules are proven methods for improving efficiency without compromising environmental standards or public participation.

With expanded capacity, agencies can address other sources of delay by improving communication with permit applicants and interagency coordination. The best practices and procedural requirements of FAST-41 are effective and target both sources of delay.[63] The FAST-41 program was originally created in 2015, when Congress passed the Fixing America's Surface Transportation (FAST) Act.[64] FAST-41 was a pilot program designed to expedite permitting for complex infrastructure projects without compromising environmental standards or restricting public participation. It seeks to achieve faster permitting times through improved interagency coordination, shared data management, strategic permit sequencing that facilitates concurrent review, enhanced communication with the project proponent, implementation of permitting best practices, and greater accountability.[65] The Act also created a Federal Permitting Improvement Steering Council (the Permitting Council), with representatives from 13 agencies involved in permitting.[66] The Permitting Council creates accountability between agencies, reduces the silo effect that can occur when agencies operate independently, and creates a forum for propagating best practices. Wisely, Congress has also appropriated funding to support the Permitting Council, which should help propagate and further implement these practices.

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[62] Government Accountability Office, Army Corps of Engineers: Workforce Planning Follows Most Leading Practices but Could Be Enhanced with Additional Actions GAO-22-104053 (Dec. 2021).

[63] For a thorough discussion of these issues, see Pleune & Boling, *This Permit Reform Works supra* note 60.

[64] Pub. L. No. 114-94, 129 Stat. 1312 (2015), codified at 42 U.S.C. § 4370m et seq.

[65] Pleune & Boling, *This Permit Reform Works supra* note 60 at Section I.

[66] 42 U.S.C. § 4370m-1(b)(3).

Pre-application meetings with project proponents speed permitting by avoiding delays later in the process.[67] Meeting with regulators and stakeholders early allows project sponsors to incorporate environmental and social sensitivities at the design phase, when impact avoidance is still feasible and cost effective. Additionally, project sponsors can benefit from agencies' experience with addressing controversial or complex impacts in other similar projects. This results in fewer modifications later in the process. It also reduces permit review times by minimizing the amount of additional information agencies must request during the review process. Especially in complex areas with conflicting or overlapping jurisdictions, the analytical and public comment procedures imposed by the NEPA process can actually speed project approval by providing a framework for analysis and bringing multiple permitting authorities to the table.

For example, the NEXUS Gas Transmission Project was a 250-mile natural gas pipeline traversing Pennsylvania, West Virginia, Ohio, and Michigan.[68] During the pre-application process, which included extensive public participation, the project sponsors incorporated 239 route alternatives and variations in the pipeline design to address landowner requests, avoid sensitive resources, or respond to engineering restraints. This feedback resulted in a 91 percent change from the original proposed route design—a number of modifications that would have been prohibitively expensive at the end of the review process. Using this information at the beginning of the process improved efficiency and arguably led to a better end result and a final application that was processed more expeditiously.[69]

Early stakeholder engagement is also consistent with the results of recent research conducted by MIT investigating sources of delay for renewable energy projects.[70] Two critical sources of delay were opposition from affected landowners due to real or perceived harms that the project would bring, and inconsistency between overlapping authorities, such as local, state, tribal, and federal jurisdictions. Based on their empirical research, the MIT

[67] *Id*. at Section IV.

[68] Office of the Executive Director, Federal Permitting Improvement Steering Council, Recommended Best Practices for Project Review and Permitting for Infrastructure Projects for Fiscal Year 2018, at 17 (2017).

[69] This is not to say that early engagement eliminated local opposition in every community. *See* Heidi Gorovitz Robertson, *Home Rule Symposium: Cities and Citizens Seethe: A Case Study of Local Efforts to Influence Natural Gas Pipeline Routing Decisions*, 122 W. Va. L. Rev. 881, 907-934 (Spring 2020) [*hereinafter* Gorovitz, *Cities and Towns Seethe*] (describing the Federal Energy Regulatory Commission's [FERC's] extensive public engagement and local opposition in three Ohio towns).

[70] Lawrence Susskind et al., *Sources of Opposition to Renewable Energy Projects in the United States*, 165 Energy Policy 112922 (2022).

researchers concluded that "incorporating all stakeholder perspectives from the outset of a siting process will probably save time and money."[71]

This is not to say that early stakeholder engagement will eliminate all opposition. The NEXUS Gas Transmission Project demonstrates a conundrum with finding permitting success stories. The ideal result of implementing a best practice, like pre-application meetings, is the avoidance of a bad result, like project delays from unexpected impacts or local opposition. If the best practice works, the bad result will not occur. This means that a success story must prove a negative—that something did not occur. It makes sense intuitively that such substantial route alterations would address many concerns and reduce opposition, but there is no way to prove what would have happened if the pipeline project had proceeded as originally designed. Moreover, the absence of opposition is an unrealistic standard to demonstrate success. With large projects like the NEXUS Transmission Gas Line, it would be virtually impossible to avoid all opposition.[72] Thus, recognizing success requires enough familiarity with the process to understand what could have happened in a given scenario.

FAST-41 procedures also focus heavily on avoiding delays caused by poor interagency coordination.[73] In early stakeholder meetings, agencies develop a Coordinated Project Plan that encourages the development of concurrent, rather than sequential, analyses. Early and coordinated stakeholder engagement enhances the efficiency of this process. The Permitting Dashboard creates accountability, reducing the likelihood that a decision will linger on the back of someone's desk. Finally, enhanced oversight from the executive director of the Permitting Council creates an opportunity for conflicts between jurisdictions to be addressed early, and in a coordinated manner. The Permitting Council's 2020 Annual Report to Congress offered both quantitative and qualitative evidence of the program's success. Between 2010 and 2018, the average time across all agencies for a project to complete an EIS was 4.5 years. In contrast, the average time to complete an EIS for projects that went through the FAST-41 process by 2020 was 2.5 years. Perhaps more persuasively, the report included testimonials from project proponents praising the transparency and efficiency of the process.

A GAO investigation also found evidence of the program's success that extended beyond federal agencies.[74] Although FAST-41 only directly affects federal agencies, the opportunities for coordination extend to state, local, and tribal permitting authorities. Early engagement creates opportunities for permitting authorities to enter into memorandums of

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[71] *Id*. at 13.

[72] Gorovitz, *Cities and Towns Seethe supra* note 69 at 907-934 (detailing some local opposition to the pipeline).

[73] For a thorough discussion of these issues, see Pleune & Boling, *This Permit Reform Works supra* note 60.

[74] Gov't Accountability Office, GAO-20-19, Infrastructure Projects: Actions Needed to Fully Develop Performance Schedules for Environmental Reviews 20-21 (Oct. 2019) [*hereinafter* GAO, Actions Needed to Fully Develop Performance Schedules].

understanding establishing roles and responsibilities As an example, the GAO report discussed the Mid-Barataria Sediment Diversion project, which was a complex FAST-41 project focused on restoring ecosystems damaged by coastal erosion and the Deepwater Horizon Oil spill, which oiled over 684 miles of wetlands across the Gulf of Mexico, particularly in the Barataria Bay.[75] With the Army Corps of Engineers as lead agency, six federal agencies entered into a memorandum of understanding with several Louisiana state agencies, accelerating the environmental review and permitting process by nearly two years.[76] Due to the complexity of this project, many project participants believe that it would not have been possible without the coordination procedures afforded through the FAST-41 process. The GAO attributed this efficiency to enhanced interagency coordination.[77] In summary, efficient permitting is possible without compromising environmental standards.

VI. Renewable Energy Projects Face Permitting Delays Unrelated to Environmental Standards Due to Serious Problems with the Interconnect Queue and Regional Transmission Organizations

A recent study by the Lawrence Berkeley National Laboratory found that there are over 2,000 GW of total generation and storage capacity waiting for approval to connect to the grid, 95 percent of which are solar, wind, or battery storage.[78] The combined wind and solar capacity actively seeking connection to the grid is approximately 1,250 GW, which is roughly equal to the current installed capacity of the entire US power plant fleet and consistent with what is necessary to achieve the 2030 target.[79]

The hurdles facing these projects involve issues with the interconnect queue, regional control of transmission, and a lack of high-power transmission lines. Projects currently wait an average of three years before receiving approval to connect to the grid.[80] Between 2000 and

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[75] *Id*. at 22.
[76] *Id*.
[77] *Id*. at 22; *see also* Mark Schleifstein, *Louisiana Granted Final Funds for Unprecedented Coastal Restoration Project* NOLA.com (Mar. 9, 2023) (reporting that Louisiana was granted the final necessary funds to build the unprecedented Mid-Barataria Sediment Diversion project aimed at helping slow land loss devastating the coast).
[78] Berkeley Lab, Energy Technologies Area, *Grid Connection Requests grow by 40% in 2022 As Clean Energy Surges, Despite Backlogs and Uncertainty* (Apr. 6, 2023), https://energy.lbl.gov/news/grid-connection-requests-grow-40-2022.
[79] *Id.*; *see also* Emma Penrod, *Why the Energy Transition Broke the U.S. interconnection System* Utility Dive (Aug. 22, 2022) (quoting Bhaskar Ray, vice president of interconnection and development engineering for energy developer Qcells USA as estimating that if all the capacity currently waiting in the interconnection queue today were built by 2030, the US would meet the 80 percent clean energy share milestone).
[80] Lawrence Berkeley Report *supra* note 78.

2007, the time between an initial connection request and a fully built, operational plant was typically less than two years. Between 2018 and 2022, that timeframe doubled to an average of almost four years, with an increasing trend. By 2022, the median time between an interconnection request to commercial operations date reached almost five years. The increased volume of proposed renewable projects sitting in the queue promises to amplify this problem. For example, at least two regional transmission organizations, the entities responsible for approving requests to connect to the grid, have announced pauses on accepting new projects until they can process their backlogs. The nation's largest electric grid operator, PJM Interconnection, coordinates electricity movement in 13 states and the District of Columbia.[81] It has announced that it will not process any new applications until the end of 2025.[82] Similarly, California Independent System Operator (CAISO),[83] a California grid operator, declined to accept any new projects in 2022 while it processed its backlog. Both entities are looking for systemic solutions to improve the grid connection process. The interconnect queue, regional control of transmission, and a lack of high-power transmission lines are serious problems delaying implementation of green technology. These problems are worthy of permit reform and require congressional attention. However, delays caused by the interconnect queue should not be conflated with those caused by NEPA and environmental standards.

VII. Rushed Decisions Increase the Risk of Avoidable Mistakes with Long-Term Consequences and Delays

The discussion around permit reform often focuses exclusively on decision-making times. A legitimate sense of urgency to implement clean energy projects drives many to seek shortcuts. However, rushed decisions have consequences. For example, the GAO recently investigated the Department of Energy's management of $1.1 billion in funding for carbon capture sequestration projects.[84] It found that between 2009 to 2022, the DOE provided $684 million to eight coal projects. Every project went over budget and exceeded timelines. Only

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[81] Delaware, Illinois, Indiana, Kentucky, Maryland, Michigan, New Jersey, North Carolina, Ohio, Pennsylvania, Tennessee, Virginia, West Virginia. https://pjm.com/about-pjm/who-we-are/territory-served (last visited Apr. 24, 2023).

[82] Institute for Energy Research, PJM Plans for a Two-Year Pause on Reviewing Project Applications (Feb. 22, 2022). https://www.instituteforenergyresearch.org/the-grid/pjm-plans-for-a-two-year-pause-on-reviewing-project-applications/#:~:text=To%20implement%20it%2C%20PJM%20is%20proposing%20an%20interim,on%20those%20coming%20at%20the%20end%20of%202027.

[83] California Independent System Operator (https://www.caiso.com/Pages/default.aspx).

[84] Gov't Accountability Off., GAO-22-105111, Carbon Capture and Storage: Actions Needed to Improve DOE Management of Demonstration Projects (Dec. 2021).

one project went into operation, and even that project eventually shut down because it was not economically viable. In summary, none of the projects succeeded.

Rushed decision-making contributed to the DOE's poor judgment and money management, according to the GAO. Eager to spend funding from the American Recovery and Reinvestment Act of 2009, the DOE bypassed its usual selection procedures and committed to coal projects immediately, at the initial selection stage. Additionally, DOE used expedited timeframes for project negotiations—shortening them from one year to three months. Bypassing procedures reduced DOE's ability to identify and mitigate risks, resulting in a $684 million loss for the American people.

Like mismanaged money, environmental resources, communities, and human health cannot be replaced. The BP Deepwater Horizon oil spill offers a cautionary tale against expediting permitting by eliminating analytical rigor and environmental analysis.[85] The Macondo well never underwent NEPA's hard look requirement due to a statutory exemption and a vast categorical exclusion.[86] Additionally, staff within the managing agencies were subject to 30-day deadlines and instructed to approve permits as quickly as possible so as not to create unnecessary delays.[87] Furthermore, the industry had grown more quickly than the agency, resulting in offices that were short-staffed and lacked training or expertise to understand the implications of the technology being used.[88]

Due to NEPA streamlining procedures, short review deadlines, and insufficient agency capacity, risks that might have been exposed through the NEPA process went undetected. For example, BP's emergency response plan for a subsea blow-out was to drill a relief well.[89] When this became the only option for containing the spill, BP revealed that drilling the relief well would take at least three months. Meanwhile, the spill kept gushing over 50,000 barrels of oil per day into the Gulf.[90] This risk should have been caught by agency staff at the permitting stage, but it wasn't. Because the permit was not subject to public comment or circulated to other agencies, no one else saw it either. We cannot know if a more rigorous permitting process would have avoided the spill, but we can learn from past mistakes.

Good decisions are more important than rushed decisions. Many proponents of reforming NEPA emphasize statutory exemptions for favored projects, expanding the use of categorical

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[85] National Commission on the BP Deepwater Horizon Oil Spill and Offshore Drilling, Report to the President, Deep Water: The Gulf Oil Disaster and the Future of Offshore Drilling (January 2011) [*hereinafter* Deepwater Horizon Commission Report].
[86] *Id*. at 82.
[87] *Id*.
[88] *Id*. at 73-74.
[89] *Id*. at 132.
[90] *Id*. at 167.

exclusions, imposing short deadlines and page limits, restricting public comment opportunities, and reducing the rigor of environmental analysis.[91] But as the Deepwater Horizon example demonstrates, these reform proposals are likely to underestimate risks and overlook problems.

VIII. Conclusion

Despite its ubiquity, the phrase "permit reform" is misleading. There is no single "permit law" that can be amended to eradicate delays. Complex projects such as transmission lines, mine permits, and renewable energy projects implicate a variety of legal standards and permitting authorities, each focused on protecting different resources, including clean air, clean water, endangered species, and cultural resources.

Used properly, the NEPA process can facilitate coordinated information-gathering and decision-making, and can streamline the permitting process. Improved interagency coordination, shared data management, and strategic permit sequencing facilitate concurrent review between permitting authorities. Enhanced communication with the project sponsor, implementation of permitting best practices, and greater accountability for permitting authorities avoid inefficient delays. Early stakeholder engagement creates an opportunity to identify, avoid, and mitigate harms at the most cost-effective phase of a project's lifecycle. All of these improvements depend on robust agency capacity. These reforms are not easily encapsulated in a pithy soundbite, but they do address the true causes of delay in permitting without compromising environmental or safety standards.

[91] *See e.g.*, The Building U.S. Infrastructure through Limited Delays and Efficient Reviews (BUILDER) Act (H.R. 2515) *available at* https://transportation.house.gov/builder-act/default.aspx (last visited Mar. 17, 2023).