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INFRASTRUCTURE AND DEVELOPMENT IN AN ERA OF EXTREME WEATHER EVENTS: WE NEED THE NATIONAL ENVIRONMENTAL POLICY ACT!

Elena Franco*

Extreme weather events and climate-induced natural disasters are becoming more frequent and costly; the U.S. National Oceanic and Atmospheric Administration (NOAA) estimated that, in 2017 alone, damages and economic loss from extreme weather events reached \$306 billion¹ and left behind destroyed infrastructure and toxic flood waters.² As of 2017, the United States' infrastructure is rated a D+ by the American Society of Civil Engineers.³

Infrastructure represents a legacy for the future and keeps our economy moving. However, review of new infrastructure projects should take into account the relationship between the built environment, climate change, and natural disasters because this interconnectedness poses additional vulnerability to our infrastructure and our populations.⁴ Fortunately, codified environmental law provides a vehicle for this kind of analysis and decision-making. The National Environmental Policy Act (NEPA),⁵ which was enacted in 1970, builds from the ecological model,⁶ and emphasizes the interdependence of humans and the environment. The Supreme Court has affirmed that NEPA's dual purposes are to ensure: 1) informed decision-making by federal agencies, and 2) public participation in that process.⁷ Section 102(2)(C) of the NEPA statute and the Council on Environmental Quality's (CEQ) regulations require agencies to prepare an Environmental Impact Statement (EIS)⁸ for "major federal actions"⁹ that have a "significant impact"¹⁰ on the "quality of the human environment."¹¹ Federal agencies must study the environmental, economic, social, cultural, public health, and safety impacts, and reasonable alternatives to these actions.¹² CEQ regulations also ensure a voice for the public by requiring agencies to provide public notice and environmental documents to those who may be interested in or affected by a federal action.¹³

As part of its fiscal year 2019 budget, the Trump administration released its Infrastructure Plan which seeks to remove delays and reduce costs it attributes to NEPA.¹⁴ Yet NEPA has shown its value as a way to mitigate future problems and save money in the long run.¹⁵ NEPA is fundamentally forward-thinking,¹⁶ and the "rule of reason" guides courts' review of NEPA environmental analysis.¹⁷ Courts have consistently held that NEPA requires agencies to take a "hard look" at the environmental impact of their plans.¹⁸

NEPA procedures hold agencies responsible for assessing risks that are "likely" and "foreseeable."¹⁹ CEQ regulations state that "reasonably foreseeable" impacts can include those with a low probability of occurrence but catastrophic consequences, so

long as there is credible scientific evidence and analysis which is "within the rule of reason."²⁰ Courts have held that terrorism and nuclear accidents are considered within the rule of reason when the causal chain to the federal action is strong and falls within the limits of the agency's authority.²¹

Increased vulnerability to climate-induced natural disasters is now falling squarely in the realm of "reasonably foreseeable."²² Although the Trump administration rescinded the Obama administration's 2016 CEQ guidance on climate change considerations,²³ judicial precedent for consideration of the implications of climate change continues to build.²⁴ In 2017, the U.S. Court of Appeals for the Tenth Circuit found that the Bureau for Land Management (BLM) acted arbitrarily and capriciously when it concluded that issuance of four coal leases in Wyoming's Powder River Basin would not result in higher national greenhouse gas emissions than if the Bureau had declined the leases.²⁵ When FERC approved natural gas pipeline expansion projects, the D.C. Circuit Court held that the Federal Energy Regulatory Commission (FERC) violated NEPA procedures because FERC failed to adequately consider the downstream, indirect project effects on greenhouse gas emissions.²⁶

Hurricanes and other natural disasters can have significant impacts on the built and natural environments, and mounting scientific evidence links the increasing frequency of hurricanes and natural disasters to climate change.²⁷ Two cases following Hurricane Katrina in 2005 demonstrate the courts' willingness to find agency actions "arbitrary and capricious" when agencies have not included known hurricane-related risks in their EIS.²⁸ In *Holy Cross v. U.S. Army Corps of Engineers*, the court found shortcomings in the Army Corps' treatment of risks in the EIS related to flooding and hurricanes in general, stating that Hurricane Katrina had exposed these inadequacies.²⁹ In *Blanco v. Burton*, the court recognized that government agencies need to consider updated information available on hurricane-related devastation to Louisiana's coastline and destruction to refineries and other infrastructure.³⁰ With legal precedent for considering terrorism risk as reasonably foreseeable,³¹ evolving judicial doctrine indicates that agencies should adequately account for the potential consequences of natural disasters, especially as the causal chain is less attenuated than for terrorism.³²

The Trump administration's Infrastructure Plan calls for ways to reduce delays and costs they ascribe to NEPA by

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dramatically reforming the judicial review standard, streamlining CEQ regulations, expanding categorical exclusions, and narrowing alternatives to be considered.³³ However, there is no strong evidence that NEPA is the cause of these delays and costs: FAST41 legislation in 2015 already streamlined NEPA procedures,³⁴ the Government Accountability Office (GAO) reports very inadequate data to assess NEPA costs,³⁵ and the Congressional Research Service (CRS) highlights NEPA's potential to save money and the lack of evidence that NEPA is the source of delay.³⁶ According to the Supreme Court, the "rule of reason" inherent in NEPA "ensures that agencies determine whether and to what extent to prepare an EIS based on the usefulness of any new potential information to the decision-making process."³⁷

Although the future of the Trump administration's Infrastructure Plan is unknown at the moment, it would be

shortsighted to focus only on economic growth objectives. The 2017 extreme weather events have been a dramatic reminder of the interconnectedness between the built environment and the vulnerabilities it creates.³⁸ NEPA provides the critical vehicle needed to ensure the government uses the best information available to make infrastructure decisions, while simultaneously giving a voice to those most impacted by these projects and natural disasters.³⁹ Citizens should participate by providing comments during the EIS process and by bringing law suits when the government does not adequately consider the risks and vulnerabilities in their communities. The judiciary should continue to build on the extensive existing case law. Both citizens and the judiciary have vital roles to play to ensure the strengthening our nation's infrastructure in an effort to shield against extreme weather events.



ENDNOTES

¹ United States Nat'l Oceanic & Atmospheric Admin., *Billion-Dollar Weather and Climate Disasters: Table of Events*, <https://www.ncdc.noaa.gov/billions/events/US/1980-2017> (last visited Mar. 11, 2018).

² UNITED STATES GOV'T ACCOUNTABILITY OFFICE, GAO-17-720, CLIMATE CHANGE: INFORMATION ON POTENTIAL ECONOMIC EFFECTS COULD HELP GUIDE FEDERAL EFFORTS TO REDUCE FISCAL EXPOSURE, 1, 24 (Sept. 2017) [hereinafter CLIMATE CHANGE: INFORMATION]; U.S. GLOBAL CHANGE RESEARCH PROGRAM, CLIMATE SCIENCE SPECIAL REPORT: FOURTH NATIONAL CLIMATE ASSESSMENT, 1, 240-42 (2017) [hereinafter CLIMATE SCIENCE SPECIAL REPORT].

³ *2017 Infrastructure Report Card*, AM. SOC'Y OF CIVIL ENG'R (2017), <https://www.infrastructurereportcard.org> (last visited Mar. 30, 2018).

⁴ David Schaper, *3 Reasons Houston Was A 'Sitting Duck' for Harvey Flooding*, NPR (Aug. 31, 2018, 6:35 AM), <https://www.npr.org/2017/08/31/547575113/three-reasons-houston-was-a-sitting-duck-for-harvey-flooding> ("Urban planners and civil engineers say a combination of natural and man-made factors has created a chronic drainage problem that left the city especially vulnerable to Harvey's torrential rains.")

⁵ 42 U.S.C. § 4332 (2012).

⁶ Sam Kalen, *Ecology Comes of Age: NEPA's Lost Mandate*, 21 DUKE ENVTL. LAW & POL'Y 113, 114 (2010).

⁷ Dep't of Transp., v. Public Citizen, 541 U.S. 752, 768 (2004); Robertson v. Method Valley Citizen Council, 490 U.S. 322, 349 (1989).

⁸ See 42 U.S.C. § 4332(2)(C) (2012); see also 40 C.F.R. §§1502.1-1502.16 (2018).

⁹ 40 C.F.R. §1508.18 ("Major Federal action includes actions with effects that may be major and which are potentially subject to Federal control and responsibility.")

¹⁰ 40 C.F.R. § 1508.27 ("significant" impact can be direct, indirect, or cumulative); *id.* at §1508.8 (defining effects as "direct" when caused by the action and occurring at the same time and location, and "indirect" when impact occur later, but are reasonably foreseeable).

¹¹ *Id.* at §1508.14 ("Human environment shall be interpreted comprehensively to include the natural and physical environment and the relationship of people with that environment. (See the definition of "effects" (§ 1508.8)) . . . [I]f economic or social and natural or physical environmental effects are interrelated, then the [EIS] will discuss all of these effects on the human environment.")

¹² See 42 U.S.C. § 4332(C) (2012).

¹³ See 40 C.F.R. § 1506.6(b); *id.* at §§ 1500.2(d), 1500.1.

¹⁴ OFFICE OF MGMT. & BUDGET, EXEC. OFFICE OF THE PRESIDENT, LEGISLATIVE OUTLINE FOR REBUILDING INFRASTRUCTURE IN AMERICA, 1, 35 (2018), <https://www.whitehouse.gov/wp-content/uploads/2018/02/INFRASTRUCTURE-211.pdf> [hereinafter TRUMP'S INFRASTRUCTURE PLAN].

¹⁵ U.S. GOV'T ACCOUNTABILITY OFFICE, GAO-14-369, NATIONAL ENVIRONMENTAL POLICY ACT: LITTLE INFORMATION EXISTS ON NEPA ANALYSES, 1, 15 (2014)

[hereinafter LITTLE INFORMATION] ("One benefit of the environmental review process, . . . is that it ultimately saves time and reduces overall project costs by identifying and avoiding problems that may occur in later stages of project development.")

¹⁶ *Scientists' Inst. for Pub. Info., Inc. v. Atomic Energy Comm'n*, 481 F.2d 1079, 1092 (D.C. Cir. 1973) (section 102(2)(C) requires agency to describe anticipated environmental effect of proposed action, subject to a rule of reason).

¹⁷ *Dep't of Transp. v. Public Citizen*, 541 U.S. 752, 754 (2004).

¹⁸ *Kleppe v. Sierra Club*, 427 U.S. 390, 410 n.21 (1971); see *Sierra Club v. Army Corp of Eng'r*, 295 F.3d 1209, 1216 (11th Cir. 2002) (stating that the "hard look" doctrine applies to review of agency NEPA decisions).

¹⁹ *Sierra Club v. Marsh*, 976 F. 2d 763, 767 (1st Cir. 1992); see 40 C.F.R. §1508.18; 40 C.F.R. § 1508.27; 40 C.F.R. §1508.8; 40 C.F.R. §1508.14.

²⁰ See 40 C.F.R. §1502.22(b)(4); see also *Robertson v. Method Valley Citizen Council*, 490 U.S. 322, 354 (1989).

²¹ See *San Luis Obispo Mothers for Peace v. Nuclear Regulatory Comm'n*, 449 F.3d 1016, 1028-30 (9th Cir. 2006) (holding the appropriate inquiry is whether terrorist attacks or other changes to the physical environment are so "remote and highly speculative" that NEPA's mandate does not include consideration of their potential environmental effects). *But see* N.J. Dep't of Envtl. Prot., v. U.S. Nuclear Regulatory Comm'n, 561 F.3d 132, 143-44 (3d Cir. 2009) (holding that impact statement was not required because there is not a reasonably close causal relationship between relicensing of nuclear power plant and the environmental effects of a potential terrorist aircraft attack without intervening events, and NRC had no authority over airspace above its facilities).

²² CLIMATE CHANGE: INFORMATION, *supra* note 2, at 34-35; CLIMATE SCIENCE SPECIAL REPORT, *supra* note 2, at 240-41.

²³ *CEQ Withdraws Guidance on NEPA and Climate Change*, COLUM. L. SCH. SABIN CTR. ON CLIMATE CHANGE (Apr. 5, 2017), <http://columbiaclimatelaw.com/climate-deregulation-tracker/ceq-withdraws-guidance-on-nepa-and-climate-change>.

²⁴ *Western Org. of Res. Council v. Bureau of Land Mgmt.*, No. CV 16-21-GF-BMM, 2018 WL 1475470, slip op. at 18-19 (D. Mont. Mar. 26, 2018).

²⁵ *WildEarth Guardians v. Bureau of Land Mgmt.*, 870 F. 3d. 1222, 1228-29 (10th Cir. 2017).

²⁶ *Sierra Club v. Fed. Energy Regulatory Comm'n*, 867 F.3d 1357, 1371-73 (D.C. Cir. 2017).

²⁷ Geert Jan van Oldenborgh et al., *Attribution of Extreme Rainfall from Hurricane Harvey*, ENVTL. RESEARCH LETTERS, 12 (2017), <http://iopscience.iop.org/article/10.1088/1748-9326/aa9ef2/pdf>.

²⁸ *Holy Cross v. Army Corps of Eng'r*, 455 F. Supp. 2d 532, 536-37 (E.D. La. 2006); *Blanco v. Burton*, No. 06-3813, 2006 WL 2366046, at *9-10 (E.D. La. Aug.14, 2006).

continued on page 48