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CLIMATE CHANGE IMPACTS AND NEPA: OVERCOMING THE REMOTE AND SPECULATIVE DEFENSE

ALANA M. WASE*

The sheer number of lawsuits filed annually regarding the National Environmental Policy Act ("NEPA") represents the law's potential. Despite the fact that NEPA's requirements have been interpreted as purely procedural,[1] NEPA remains an enormously useful tool for environmental protection. While lawyers continue to sort out NEPA's utility in combating climate change, this Comment will advocate that an effective parallel can be drawn between NEPA's application in the nuclear context and NEPA's application to greenhouse gas ("GHG") emissions. Interpreting NEPA this way ensures optimal application. Many of the difficulties in applying NEPA to GHG emissions have already been encountered and litigated in the nuclear context. The environmental risks posed by nuclear waste and GHG emissions are equally difficult to predict with precision, yet both remain extremely dangerous.[2] Additionally, recent case law provides an instructive focal point for further considering the parallel and surmounting a common pitfall facing petitioners invoking NEPA when alleging inadequate climate change analysis.[3]

Specifically, in *New York v. Nuclear Regulatory Commission*,[4] the United States Court of Appeals for the District of Columbia Circuit established a new reference point in the unfolding NEPA case law. The court's holding illuminates a murky area of NEPA, in which envi-

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1. *See infra* Part I.A.

2. *See infra* Part II.C.

3. *See infra* Part II.C.

4. 681 F.3d 471 (D.C. Cir. 2012). Hereinafter, this Comment will refer to this case as *New York v. NRC*.

ronmental impacts that are "remote or speculative" need not be considered. Although the test of what is "remote or speculative" remains difficult to define, *New York v. NRC* at least identifies a scenario that is not so uncertain as to preclude consideration in an environmental impact statement ("EIS")—the possibility that a permanent repository for spent nuclear fuel may fail to exist in thirty years.[5] Although the holding pertains most directly to NEPA in the context of nuclear power, this Comment will argue that the significance of this decision should be broader, as it is applicable to all NEPA challenges including those involving climate change impacts.

This Comment will explain that this case could be a useful tool in the ongoing effort to require NEPA analyses to include sound considerations of climate change.[6] The jurisprudence on climate change consideration in NEPA analyses is still very much in development. In its current form, it is both incomplete and inconsistent.[7] Advocates seeking more thorough and consistent analysis of climate change impacts in EISs should use this ruling as a rebuttal to the "remote and speculative" defense that precludes consideration of climate change from NEPA analyses.[8] In particular, the decision may be used as proof that while the modeling of climate change impacts is not exact, agencies are not prevented from including detailed calculations of climate change impacts, which are no less uncertain than nuclear storage risks.

Part I will lay out the current state of NEPA litigation regarding climate change including a detailed look at the NEPA statute and regulations,[9] the Council on Environmental Quality's ("CEQ") guidance concerning climate change consideration,[10] and the current state of federal circuit court decisions applying climate change in NEPA analyses.[11] It will also introduce the *New York v. NRC* decision.[12]

Part II will analyze the state of climate change consideration in NEPA, concluding that there is significant room for improvement. Next, it will apply the *New York v. NRC* holding to existing case law

5. *See infra* Part I.D.
6. *See infra* Part II.C.
7. *See infra* Part II.B.
8. *See infra* Part II.C.
9. *See infra* Part I.A.
10. *See infra* Part I.B.
11. *See infra* Part I.C.
12. *See infra* Part I.D.

and argue that the decision could eliminate a barrier in NEPA's ability to consider climate change. Principally, the holding arms courts with a new point of comparison on the threshold certainty required for considering climate change in an environmental assessment ("EA") or EIS. This Part will urge application of *New York v. NRC* to preclude agencies from asserting that GHG emissions from a proposed project are too "remote and speculative" as to require consideration in determining the proposal's environmental impact. Equally important, this Comment will argue that the decision should be used to require a more thorough analysis of GHG considerations than the cursory review that has become customary in the few proposals including GHG impacts in their analyses. In sum, this Comment will advocate for increased climate change considerations in NEPA and will suggest that the *New York v. NRC* decision offers a new point of persuasion as federal circuits are increasingly called upon to address when and in what level of detail climate change must be factored into NEPA.

I. BACKGROUND

The National Environmental Policy Act was signed into law in 1970.[13] The purpose of NEPA is two-fold: (1) to establish a national environmental policy,[14] and (2) to ensure federal agencies' adherence to the policy in significant decision-making.[15] The Act puts in place a sweeping national policy, declaring that federal, state, and local governments are:

> to use all practicable means and measures, including financial and technical assistance, in a manner calculated to foster and promote the general welfare, to create and maintain conditions under which man and nature can exist in productive harmony, and fulfill the social, economic, and other

13. National Environmental Policy Act of 1969, 42 U.S.C. § 4321 (2006). It is worth noting that President Nixon, a Republican, signed the Act into law, illustrating that environmental stewardship was not a partisan issue. *National Environmental Policy Act*, COUNCIL ON ENVTL. QUALITY, http://ceq.hss.doe.gov/ (last visited Mar. 12, 2013).

14. 42 U.S.C. § 4331 (2006).

15. *Id.* § 4332.

> requirements of present and future generations of Americans.[16]

Despite the Act's short length, application of NEPA, particularly with respect to climate change, is complicated.[17] To explain the evolution of the law with respect to climate change considerations, this part considers a number of relevant sources. Part I.A describes the NEPA statute and key regulations that provide further detail on agency compliance with the statute. Part I.B reviews the *Draft NEPA Guidance on Consideration of the Effects of Climate Change and Greenhouse Gas Emissions* ("Draft Guidance"),[18] authored by CEQ, the agency in charge of administering NEPA. The Draft Guidance, while the most relevant source, is nonetheless limited in its authority.[19] Part I.C then turns to how the United States courts of appeals have applied NEPA to climate change. Lastly, Part I.D explores the D.C. Circuit's recent holding in *New York v. NRC*.

A. NEPA and Its Corresponding Regulations

Aside from declaring an aspirational environmental policy,[20] the substance of NEPA's legal mandates are rather limited. The statute

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16. *Id.* § 4331(a). Congress was not shy in its valuation of the environment or man's responsibility for impacting the environment. In fact, Congress declared a national environmental policy in recognition of

> the profound impact of man's activity on the interrelations of all components of the natural environment, particularly the profound influences of population growth, high-density urbanization, industrial expansion, resource exploitation, and new and expanding technological advances and recognizing further the critical importance of restoring and maintaining environmental quality to the overall welfare and development of man . . . .

Id.

17. *See infra* Part I.C.

18. Memorandum from Nancy H. Sutley, Chair of the Council on Envtl. Quality, *Draft NEPA Guidance on Consideration of the Effects of Climate Change and Greenhouse Gas Emissions* (Feb. 18, 2010) [hereinafter Sutley Memorandum], *available at* http://www.whitehouse.gov/sites/default/files/microsites/ceq/20100218-nepa-consideration-effects-ghg-draft-guidance.pdf.

19. *See infra* Part II.A.

20. According to NEPA, states that "it is the continuing responsibility of the Federal Government to use all practicable means" to:

> (1) fulfill the responsibilities of each generation as trustee of the environment for succeeding generations; (2) assure for all Americans safe, healthful, produc-

requires all federal agencies to prepare an EIS on major federal actions and proposals for legislation that significantly impact the environment.[21] In evaluating whether a proposal meets the threshold impact to warrant an EIS, the agency considers the context of the proposal as it relates to society, the region, affected interests, and the locality.[22] The agency also must consider the intensity or severity of the impact including: how much the proposed action impacts public health, safety, unique characteristics of the area, and the presence of endangered or threatened species; precedent set by the proposal; the degree to which the possible effects are unknown; whether the action may be insignificant individually but significant cumulatively when considered with other actions; and whether the action threatens a violation of other federal, state, or local laws.[23] Finally, proposed mitigation measures may be factored into the decision of whether the proposal would have a significant environmental impact thereby necessitating an EIS.[24]

> tive, and esthetically and culturally pleasing surroundings; (3) attain the widest range of beneficial uses of the environment without degradation, risk to health or safety, or other undesirable and unintended consequences; (4) preserve important historic, cultural, and natural aspects of our national heritage, and maintain, wherever possible, an environment which supports diversity and variety of individual choice; (5) achieve a balance between population and resource use which will permit high standards of living and a wide sharing of life's amenities; and (6) enhance the quality of renewable resources and approach the maximum attainable recycling of depletable resources.

42 U.S.C. § 4331(b). Congress went even further and noted that every person "should enjoy a healthful environment" and everyone "has a responsibility to contribute to the preservation and enhancement of the environment." *Id.* § 4331(c).

21. *Id.* § 4332(c) (2006).

22. 40 C.F.R. § 1508.27(a) (2012). The regulations further clarify, "in the case of a site-specific action, significance would usually depend upon the effects in the locale rather than in the world as a whole." *Id.*

23. *Id.* § 1508.27(b).

24. Forty Most Asked Questions Concerning CEQ's National Environmental Policy Act Regulations, 46 Fed. Reg. 18,026, 18,038 (Mar. 23, 1981). Where the proposed mitigation measures result in the project not attaining the threshold "significant" environmental impact, a "finding of no significant impact" ("FONSI") is issued; in this case, it is known as a "mitigated FONSI." 40 C.F.R. § 1508.13 (2012). Mitigation is defined broadly in the regulations as: avoiding the impact, minimizing impacts, rectifying the impact by repair, rehabilitation, or restoration, reducing the impact, or compensating for the impact. 40 C.F.R.

If there is doubt as to whether a proposed action will cause significant environmental impacts as to warrant a complete EIS, agencies prepare an EA,[25] which can be thought of as a miniature EIS.[26] After an EA, the federal agency may issue a "finding of no significant impact"[27] and dispose of its duty under NEPA or conclude that the environmental impact of the proposed action would be significant and proceed to complete an EIS.[28]

Where an EIS is required because the federal action is likely to have significant environmental impacts, it must include:

> (i) the environmental impact of the proposed action, (ii) any adverse environmental effects which cannot be avoided should the proposal be implemented, (iii) alternatives to the proposed action, (iv) the relationship between local short-term uses of man's environment and the maintenance and enhancement of long-term productivity, and (v) any irreversible and irretrievable commitments of resources which would be involved in the proposed action should it be implemented.[29]

Further, the subsection (iii) alternatives analysis, which the regulations call "the heart of the environmental impact statement," must contain a rigorous evaluation of reasonable alternatives, including an explanation of alternatives that were eliminated from the detailed study, an alternative of no action, and mitigation measures not already in the proposal.[30] In evaluating each alternative, the EIS must be developed, "providing a clear basis for choice among options by the decisionmaker and the public."[31] Ultimately the overall purpose

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§ 1508.20 (2012). As the cost of an EIS is substantial, there are significant economic advantages to mitigation.

25. 40 C.F.R. § 1501.4(b) (2012).

26. 40 C.F.R. § 1508.9 (2011). The EA is a "concise public document" containing "brief discussions of the need for the proposal," "alternatives as required", and the "agencies and persons consulted." *Id.*

27. Even a FONSI requires documentation of how the agency arrived at its conclusion. 40 C.F.R. § 1508.13.

28. 40 C.F.R. § 1501.4(c)–(e).

29. 42 U.S.C. § 4332(2)(C) (2006).

30. 40 C.F.R. § 1502.14 (2012).

31. *Id.*

of NEPA is to ensure that agencies "look before they leap," encouraging well-informed decision-making.[32]

Early NEPA case law has made clear that EIS and EA requirements are procedural in nature. In other words, agencies must follow the required steps,[33] but they are free to make their own decisions.[34] So long as the agency has performed the EIS or EA and is fully aware of the environmental consequences of a proposed action and the alternatives, the agency has satisfied its NEPA burden.

Despite NEPA's purely procedural reach, it is a frequently pursued vehicle for environmental protection for a number of reasons. First, EISs are highly time consuming, and delay—while theoretically only temporary—may ultimately result in abandonment of a proposal.[35] Additionally, a completed EIS or EA may be challenged for inadequacy, resulting in more delay. And finally, the EIS, if completed correctly, requires thorough consideration of all the environmental impacts of the proposal, making it a useful tool for community groups raising awareness among the public and elected officials regarding the negative impacts of a project. For all these reasons, NEPA remains prominent law in environmental protection in the United States and internationally.[36]

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32. The Environmental Protection Agency ("EPA") hosts a database containing all EISs filed since January 2004. *National Environmental Policy Act (NEPA): Environmental Impact Statement (EIS) Database*, U.S. ENVTL. PROT. AGENCY, http://www.epa.gov/compliance/nepa/eisdata.html? (last updated June 25, 2012).

33. *See* Strycker's Bay Neighborhood Council, Inc. v. Karlen, 444 U.S. 223, 227 (1980) (concluding that while NEPA established "'significant substantive goals for the Nation,' [it] imposes upon agencies duties that are 'essentially procedural'" (quoting Vt.. Yankee Nuclear Power Corp. v. Natural Res. Def. Council, Inc., 435 U.S. 519, 558 (1978))).

34. *Id.* at 227–28. The Court in *Strycker* went on to state:

> [O]nce an agency has made a decision subject to NEPA's procedural requirements, the only role for a court is to insure that the agency has considered the environmental consequences; it cannot "interject itself within the area of discretion of the executive as to the choice of the action to be taken."

Id. (quoting Kleppe v. Sierra Club, 427 U.S. 390, 410 n.21 (1976)).

35. For example after the famous case of *Sierra Club v. Morton* 405 U.S. 727 (1972), Disney eventually dropped its proposal to lease land in Mineral King Valley to develop a ski resort. *Mineral King: Breaking Down the Courthouse Door*, EARTHJUSTICE, http://earthjustice.org/features/mineral-king-breaking-down-the-courthouse-door (last visited Mar. 1, 2013).

36. *See* NEPANET, http://ceq.hss.doe.gov/nepa/nepanet.htm (last updated Oct. 24, 2012) (listing countries that have adopted NEPA).

B. *CEQ Draft Guidance on Considering the Effects of Climate Change and GHG Emisions*

On February 18, 2010, Nancy H. Sutley, Chair of CEQ, issued the Draft Guidance on how agencies should consider GHG impacts with respect to NEPA.[37] Although only a draft,[38] it is the most direct information available from CEQ on how federal agencies should analyze effects of GHG emissions and climate change when conducting a NEPA analysis.[39]

The Draft Guidance begins by stating that GHG impacts are relevant to the NEPA analysis.[40] Relying on the minimum threshold of emissions that must be reported under the Clean Air Act, CEQ suggests that where a proposed action would cause direct annual emissions of 25,000 metric tons or more of CO_2-equivalent,[41] "a quantita-

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37. Sutley Memorandum, *supra* note 18. The Draft Guidance does not pertain to federal land and resource management actions but instead solicits comments as to how GHG impacts should be considered in federal actions involving federal land and resource management decisions. *Id.* at 2. The Draft Guidance was promulgated in response to a petition by the Sierra Club and the Natural Resources Defense Council, among others. Int'l Ctr. for Tech. Assessment et al., Petition Requesting that the Council on Environmental Quality Amend Its Regulations to Clarify that Climate Change Analyses Be Included in Environmental Review Documents (Feb. 28, 2008), *available at* http://209.200.74.155/doc/CEQ%20Petition%20Final%20Version%202-28-08.pdf.

38. *See infra* text accompanying notes 137–141 for a discussion of the limitations of draft guidances.

39. Interestingly, CEQ had mentioned climate change in a previous draft memorandum to agency heads as early as 1997. It stated, "'[t]he NEPA process provides an excellent mechanism for consideration of ideas related to global climate change.'" *See* Madeline June Kass, *A NEPA Climate Paradox: Taking Greenhouse Gases Into Account in Threshold Signficance Determinations*, 42 IND. L. REV. 47, 48 n.7 (2009) (quoting Draft Memorandum from Kathleen McGinty, Chairman of Council on Envtl. Quality, to all Federal Agency NEPA Liaisons (Oct. 8, 1997)). More formally, in published guidance, CEQ stated, "[d]irect effects continue to be most important to decisionmakers, in part because they are more certain. Nonetheless, the importance of . . . climate change, and other cumulative effects problems has resulted in many efforts to undertake and improve the analysis of cumulative effects." COUNCIL ON ENVTL. QUALITY, CONSIDERING CUMULATIVE EFFECTS UNDER THE NATIONAL ENVIRONMENTAL POLICY ACT, at 7 (1997), *available at* http://ceq.hss.doe.gov/nepa/ccenepa/sec1.pdf.

40. Sutley Memorandum, *supra* note 18, at 1.

41. The EPA defines carbon dioxide equivalent as "[a] metric measure used to compare the emissions from various greenhouse gases based upon their global warming poten-

tive and qualitative assessment may be meaningful to decision makers and the public."[42] Where direct annual emissions fall below this amount, CEQ leaves it up to federal agencies to determine whether the proposed action's long-term emissions necessitate consideration.[43] The CEQ is careful to state that the 25,000 metric tons is not "a threshold of significant effects," but instead "an indicator of a minimum level of GHG emissions that may warrant some description in the appropriate NEPA analysis."[44]

While endorsing GHG consideration in NEPA analyses, CEQ states that GHGs are a global problem resulting from many sources, each causing "relatively small addition[s]," and thus federal agencies' EISs and EAs should "reflect this global context and be realistic in focusing on ensuring that useful information is provided."[45] The Draft Guidance offers a list of proposals that may warrant GHG impact consideration: large, solid-waste landfills, energy facilities such as coal-fired power plants, or methane venting in coal mines.[46] The Draft Guidance also suggests that projects designed for long-term use and located in areas vulnerable to experiencing the effects of climate change warrant climate change consideration, particularly with respect to adaptation potential.[47] In other words, the agencies should consider these projects' capacity to adapt to a changing climate.

Once it is determined that GHG emissions merit explicit analysis, CEQ suggests that agencies set spatial and temporal limits to their GHG consideration and "focus on aspects of climate change that may lead to changes in the impacts, sustainability, vulnerability and design of the proposed action."[48] Where the direct emissions of the project necessitate an EIS, an agency should: "(1) quantify cumulative emissions over the life of the project; (2) discuss measures to reduce GHG emissions, including consideration of reasonable alternatives; and (3)

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tial (GWP)." *Glossary of Climate Change Terms: Carbon Dioxide Equivalent*, ENVTL. PROT. AGENCY, http://www.epa.gov/climatechange/glossary.html (last updated June 14, 2012).

42. Sutley Memorandum, *supra* note 18, at 1.

43. *Id.* at 1–2.

44. *Id.* at 2. This qualification creates a pregnant negative. Stating that only direct emissions greater than 25,000 CO_2-equivalent "may warrant some description" in a NEPA analysis implies that projects without such emissions warrant no discussion of GHG impacts in their NEPA analysis. *Id.* at 1–2. This is discussed further in Part II.

45. *Id.* at 2.

46. *Id.* at 3.

47. *Id.* at 7.

48. *Id.* at 2.

qualitatively discuss the link between such GHG emissions and climate change."[49] Amongst this general guidance, CEQ warns that "agencies should recognize the scientific limits of their ability to accurately predict climate change effects, especially of a short-term nature, and not devote effort to analyzing wholly speculative effects."[50]

In evaluating alternatives to a proposal, CEQ suggests comparing energy use and mitigation opportunities associated with each alternative.[51] Additionally, each alternative should be compared for compliance with federal, state, or local goals for energy conservation.[52] The CEQ asserts that NEPA's consideration of GHGs and alternative proposals can result in agencies reducing vulnerability to climate change through adaptation and mitigating GHG impacts.[53]

Finally, CEQ notes that NEPA analysis of climate change is likely to evolve both in regard to the scientific information available as well as to the law and policy in this arena.[54] Thus, it concludes that even once the Draft Guidance is issued in final form it is subject to change as developments in science, law, and policy occur.[55] In summary, although the subject matter of the Draft Guidance is perfectly germane, its substance is limited.[56]

C. NEPA and Climate Change Case Law in the Federal Courts of Appeals

Litigation invoking NEPA is abundant and represents one tool in the litigator's limited toolbox to reduce GHG emissions. Interestingly, a recent survey found that one-sixth of all climate change litigation is brought through NEPA challenges.[57] The abundance of suits represents environmental advocates' hope NEPA will elevate climate change consideration in agency decisionmaking and prevent new pro-

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49. *Id.* at 3. In calculating direct emissions, the agency should only consider what is emitted as a result of the agency's control or authority. Dep't of Transp. v. Pub. Citizen, 541 U.S. 752, 768 (2004).

50. Sutley Memorandum, *supra* note 18, at 2.

51. *Id.* at 5.

52. *Id.*

53. *Id.* at 2.

54. *Id.* at 11.

55. *Id.*

56. *See infra* Part II.A.

57. David Markell & J.B. Ruhl, *An Emperical Assessment of Climate Change in the Courts: A New Jurisprudence or Business as Usual?,* 64 FLA. L. REV. 15, 57–58 (2012).

jects with significant GHG implications. As case law reveals, however, there is significant ambiguity in terms of what is required of federal agencies under NEPA with respect to climate change. This Part reviews the limited the few cases that have addressed this issue.

As NEPA has been interpreted to be largely procedural, lawyers litigating NEPA and climate change may bring a limited number of challenges. Two of the main challenges are: (1) a challenge to an EA or an EIS for inadequate analysis of the climate impacts of the proposed project,[58] or (2) a challenge to an EA or EIS for inadequate analysis of alternatives to a project and their respective climate change impacts.[59]

Despite the abundance of NEPA climate change litigation, only two circuits, the Ninth Circuit[60] and the Eighth Circuit,[61] have ruled on NEPA's requirement of climate change consideration. Although circuit courts have found that climate change impacts are appropriate considerations under NEPA, they have set the bar at two very different levels: Specifically, the courts differ in terms of their acceptance of the remote and speculative defense and vary as to the degree of detail required in analyzing GHG impacts.

1. The Ninth Circuit's Searching Standard

The Ninth Circuit is the leader in setting a high bar for climate change considerations under NEPA. In *Center for Biological Diversity v. National Highway Traffic Safety Administration*,[62] the court famously held that "[t]he impact of greenhouse gas emissions on climate change is precisely the kind of cumulative impacts analysis that NEPA requires

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58. *See, e.g.*, Nw. Envtl. Advocates v. Nat'l Marine Fisheries Serv., 460 F.3d 1125, 1131 (9th Cir. 2006) (challenging the adequacy of the Final Supplemental EIS for deepening a channel of the Columbia River).

59. *See, e.g.*, Mayo Found. v. Surface Transp. Bd., 472 F.3d 545, 548–49, 554 (8th Cir. 2006) (challenging the adequacy of the Final Supplemental EIS for failing to consider the GHG impacts of constructing a new rail line for coal delivery as well as alternatives to the project and their respective emission impacts).

60. *See infra* Part I.C.1.

61. *See infra* Part I.C.2.

62. 508 F.3d 508 (9th Cir. 2007) (holding that it was improper to remand and immediately require an EIS, rather the agency could determine whether to do a revised EA or a complete EIS, yet nonetheless affirming that the original EA was inadequate), *vacated and superseded on denial of reh'g by* 538 F.3d 1172 (9th Cir. 2008).

agencies to conduct."[63] At issue in the case was the National Highway Traffic Safety Administration's ("NHTSA") Final Rule setting corporate average fuel economy ("CAFE") standards for light trucks for Model Years ("MY") 2008–2011.[64] In the Final Rule, NHTSA adopted new fuel standards for light trucks, requiring an average of 22.5 miles per gallon ("mpg") for MY 2008, 23.1 mpg for MY 2009, and 23.5 mpg for MY 2010.[65] Petitioners challenged NHTSA's EA and subsequent FONSI, in addition to challenging the rule as arbitrary and capricious.[66]

The court resoundingly agreed with petitioners' interpretation of NEPA requirements. The court reasoned that although the Final Rule would result in a .02% decrease in emissions, this did not mean that the environmental impacts of the rule were insignificant.[67] Rather, the court stated that the proposed CAFE standards would not reduce carbon emissions but only decrease the rate of growth.[68] Furthermore, the court found the EA's cumulative impacts analysis inadequate, as "it [did] not evaluate the 'incremental impact' that these emissions [would] have on climate change or on the environment."[69]

Additionally, the court stated, "the fact that 'climate change is largely a global phenomenon that includes actions that are outside of [the agency's] control . . . does not release the agency from the duty of assessing the effects of *its* actions on global warming.'"[70] The court even stated that while an individual proposed action might have an "'individually minor' effect on the environment," such as the .02% delay in emissions, the CAFE standards are "'collectively significant actions taking place over a period of time.'"[71] In line with this idea, the court quoted the dissent of Chief Judge Wald[72] in *City of Los Angeles v.*

63. *Id.* at 550.

64. *Id.* at 513. Under the Energy Policy and Conservation Act of 1975, NHTSA is charged with setting a performance standard of a minimum level of average fuel economy applicable to vehicle manufacturers. 49 U.S.C. §§ 32901–32919 (2006).

65. *Ctr. for Biological Diversity*, 508 F.3d at 519, 523.

66. *Id.* at 513–14.

67. *Id.* at 556.

68. *Id.* at 549.

69. *Id.*

70. *Id.* at 550 (alterations in original).

71. *Id.* (quoting 40 C.F.R. § 1508.7 (2007)).

72. *Id.*

National Highway Traffic Safety Administration,[73] the first case to hold that climate change considerations were not required under NEPA.[74] Chief Judge Wald, ahead of her time, stated: "[W]e cannot afford to ignore even modest contributions to global warming. If global warming is the result of the cumulative contributions of myriad sources, any one modest in itself, is there not a danger of losing the forest by closing our eyes to the felling of the individual trees?"[75] Thus, the Ninth Circuit set a high precedent for GHG considerations required under NEPA and did not allow an agency to skirt this responsibility despite the cumulative nature of climate change.

2. *The Eighth Circuit's Deferential Approach*

Interestingly, the Eighth Circuit, while also reaching the conclusion that GHG emissions are appropriate considerations under NEPA, implied a less searching standard. In *Mid States Coalition for Progress v. Surface Transportation Board*,[76] the Eighth Circuit reviewed a $1.4 billion proposal, which the Surface Transportation Board had approved and dubbed the "largest and most challenging rail construction proposal" ever before the Board.[77] The project involved 280 miles of new rail construction and 600 miles of rail upgrades, the purpose of which was to transport coal from mines to power plants more quickly and at less cost.[78] Although a 5,000-page draft EIS was prepared,[79] the Eighth Circuit held that the EIS was inadequate as it failed to consider increased emissions that could have resulted from the project.[80]

The court described how the price of coal would impact its demand:

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73. 912 F.2d 478 (D.C. Cir. 1990), *overruled on other grounds by* Fla. Audubon Soc'y v. Bentsen, 94 F.3d 658 (D.C. Cir. 1996)).

74. *See id.* at 481–83 (dismissing on the merits the Natural Resources Defense Council's petition that the National Transit Highway Administration was required to prepare "an EIS in order to consider the adverse climatic effects of the increase in fossil fuel consumption that would result from setting a CAFE standard lower than 27.5 mpg").

75. *Id.* at 501 (Wald, C.J., dissenting).

76. 345 F.3d 520 (8th Cir. 2003).

77. *Id.* at 532, 550.

78. *Id.* at 532–33.

79. *Id.* at 533.

80. *Id.* at 550. A number of emissions were of concern from the project, including nitrous oxide, carbon dioxide, particulates, and mercury. *Id.* at 548.

> [T]he proposition that the demand for coal will be unaffected by an increase in availability and a decrease in price, which is the stated goal of the project, is illogical at best. The increased availability of inexpensive coal will at the very least make coal a more attractive option to future entrants into the utilities market when compared with other potential fuel sources, such as nuclear power, solar power, or natural gas. Even if this project will not affect the short-term demand for coal, which is possible since most existing utilities are single-source dependent, it will most assuredly affect the nation's long-term demand for coal . . . .[81]

The court firmly rejected the project's proponents' position that the effects of increased coal generation did not have to be addressed because coal-hauling contracts had not been finalized and therefore, the effects were too speculative.[82] Instead the court held that the "*nature* of the effect . . . is far from speculative"; it is only the extent of the effect that is speculative and, as such, it must be evaluated under NEPA.[83] Thus, the court initially set a high standard for NEPA consideration of GHG emissions.

Nonetheless, after remand and a supplemental EIS, the court's searching standard morphed into deference. After the Surface Transportation Board approved the rail line, the Sierra Club petitioned the Eighth Circuit for review.[84] The court rejected the petition for review, finding the supplemental EIS sufficient.[85] While the Board had used modeling and found that "on both national and regional levels, projected air emissions for sulfur dioxide, nitrogen oxides, carbon dioxide, and mercury associated with the small increase of additional coal usage would be less than 1%," it was unable to determine the environmental impacts at the local level.[86] Perhaps most telling, the Eighth Circuit approved of the Board's conclusion that the local

81. *Id.* at 549.

82. *Id.*

83. *Id.*

84. Mayo Found. v. Surface Transp. Bd., 472 F.3d 545 (8th Cir. 2006).

85. *Id.* at 556.

86. *Id.* at 555 (citation omitted) (internal quotation marks omitted). As a point of comparison, the Ninth Circuit's held that only a .02% decrease in emissions was significant enough as to preclude a FONSI. *See supra* text accompanying note 67.

impacts were "'speculative'" and "'ultimately unforeseeable,'" and it was thus unnecessary to require increased mitigation.[87]

To date, only two federal courts of appeals have dealt with climate change consideration under NEPA. While they have facially reached the same result that climate change impacts are appropriate considerations in an EA and EIS,[88] the courts in practice have demanded two significantly different standards of review and two different interpretations of what level of emissions impacts are speculative or significant.

D. New York v. NRC

In contrasting how the federal circuit courts have dealt with the remote and speculative defense in regard to GHG emissions, it is worthwhile to consider how the defense is treated generally under NEPA. *New York v. NRC* offers one point of comparison. In that case, four states—New York, New Jersey, Vermont, and Connecticut—the Prairie Island Indian Community, and environmental groups petitioned the D.C. Circuit to review a Nuclear Regulatory Commission ("NRC" or "Commission") rulemaking, which petitioners alleged was in violation of NEPA.[89] Specifically, petitioners challenged a 2010 update to the agency's Commission's Waste Confidence Decision ("WCD"), which serves as the basis for its policy on the storage and disposal of nuclear waste.[90]

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87. *Mayo Found.*, 472 F.3d at 556 (quoting Dakota, Minn. & E. R.R. Corp. Constr. Into the Powder River Basin, STB Finance Docket No. 33407 at 17 (Feb. 15, 2006)) [hereinafter STB 2006 Decision]. The Board maintained that in order for the effects not to be speculative, it "'would need to know not only what existing or new power plants would actually use DM&E's service, but also whether they would otherwise not burn PRB coal, not burn as much coal, or burn a different mix of coal.'" *Id.* at 555–56 (quoting STB 2006 Decision at 13).

88. Furthermore, it is likely that future courts will also conclude that climate change impacts are appropriate considerations under NEPA, especially after *Massachusetts v. EPA* and the Supreme Court's recognition that EPA may regulate GHG emissions as a significant environmental problem. 549 U.S. 497, 521–26 (2007).

89. New York v. Nuclear Regulatory Comm'n, 681 F.3d 471, 473 (D.C. Cir. 2012).

90. *Id.* at 475. The original WCD was published in 1984 as a result of *Minnesota v. NRC*, 602 F.2d 412 (D.C. Cir. 1979), in which the D.C. Circuit remanded an NRC decision to allow the expansion of spent-fuel pools at two nuclear plants. New York, 681 F.3d. at 474–75.

In the original WCD, the Commission made five "Waste Confidence Findings": (1) spent nuclear fuel ("SNF") may be safely disposed of in a mined geologic repository; (2) by 2007–2009, such a repository will exist; (3) until the repository is available, waste will be safely managed in the interim; (4) SNF may be safely stored at nuclear plants thirty years or more after the licensed life of each plant; and (5) if needed, safe, independent storage will become available.[91] The Commission revised the WCD in 1990[92] and reviewed it without alteration in 1999.[93]

In its 2010 revision, the Commission reaffirmed three of the original findings and altered findings number two and four.[94] Finding number two, which had previously concluded that a permanent geologic repository would be available in the first quarter of the twenty-first century, now states that a repository will be available "when necessary," removing any reference to a specific date.[95] Finding number four also was revised so that SNF, which previously could be stored on site for thirty years beyond the licensed life of a plant, now may be stored for sixty years.[96] After the revisions, the Commission adopted a new Temporary Storage Rule ("TSR"), bringing the Commission's regulations into conformance with the WCD revisions.[97] Petitioners challenged these revisions and the new TSR in *New York v. NRC*.[98]

Petitioners brought suit alleging that the WCD is a major federal action and that the Commission did not perform an EIS as required by NEPA.[99] Specifically, petitioners argued that the Commission violated NEPA because its conclusion that permanent storage will be available "when necessary": (1) failed to take into consideration the

91. Waste Confidence Decision, 49 Fed. Reg. 34,658, 34,659–60 (Aug. 31, 1984).

92. *See* Waste Confidence Decision Review, 55 Fed. Reg. 38,472, 38,474, 38,505 (Sept. 18, 1990) (updating the WCD due to new understandings on waste disposal and changing the date that a repository would be available to store spent fuel to 2025).

93. Waste Confidence Decision Review: Status, 64 Fed. Reg. 68,005, 68,006–07 (Dec. 6, 1999).

94. Waste Confidence Decision Update, 75 Fed. Reg. 81,037, 81,037 (Dec. 23, 2010).

95. New York, 681 F.3d at 475.

96. *Id.*

97. Consideration of Environmental Impacts of Temporary Storage of Spent Fuel After Cessation of Reactor Operation, 75 Fed. Reg. 81,032, 81,032 (Dec. 23, 2010); 10 C.F.R. § 51.23(a) (2012).

98. *New York*, 681 F.3d at 475.

99. *Id.* at 474, 476.

societal and political barriers that have prevented a permanent repository from being constructed thus far; (2) provided no meaningful definition of the term "necessary;" and (3) failed to consider the possibility that a permanent repository may never be built and the environmental impacts of such an outcome.[100] Additionally, petitioners contested the Commission's FONSI regarding prolonged temporary storage of SNF at nuclear sites for sixty years beyond a plant's license.[101] Petitioners also faulted the analysis because there was no investigation into the impacts of pool fires, the likelihood of which, although low, is not so low as to be "remote or speculative."[102]

The D.C. Circuit granted the petition for review and vacated the Commission's WCD changes and the TSR.[103] Specifically, the court held that the Commission's rulemaking was a major federal action, subjecting it to NEPA.[104] Additionally, the court determined that the Commission's analysis of the risks posed by SNF was inadequate because (1) the analysis ignored the possibility that a permanent storage repository may not exist; and (2) the Commission failed to analyze the "future dangers and key consequences" of allowing SNF to be stored on site at a nuclear plant for sixty years beyond the expiration of the plant's license.[105]

In regard to the court's conclusion that the WCD rulemaking was a major federal action, the court reasoned that "NEPA requires that 'environmental issues be considered at every important stage in the decision making process concerning a particular action'" and that the WCD is such a "stage" due to the preclusive effect the WCD findings have on future licensing decisions.[106] The court noted that while it

100. *Id.* at 477.

101. Petitioners alleged that the FONSI was inadequate because the Commission did not review the risks with respect to each plant and its unique characteristics. *Id.* at 479. Petitioners further stated that even if the Commission's generic EA of extending temporary storage of SNF from thirty to sixty years was appropriate, it was nonetheless insufficient because the Commission looked at past leaks only and did not consider the risks of other future leaks. *Id.* at 479–80.

102. *Id.* at 480. Petitioners also asserted that the Commission violated NEPA because it did not investigate non-health environmental impacts from allowing SNF to be stored sixty years at nuclear sites. *Id.*

103. *Id.* at 483.

104. *Id.* at 476.

105. *Id.* at 473.

106. *Id.* at 476 (quoting Calvert Cliffs' Coordinating Comm., Inc. v. Atomic Energy Comm'n, 449 F.2d 1109, 1118 (D.C. Cir. 1971)).

gives considerable deference to an agency's decision to complete an EA versus an EIS,[107] if an agency chooses to prepare an EA only,

> the agency must 1) "accurately identif[y] the relevant environmental concern," 2) take a "hard look at the problem in preparing its EA," 3) make a "convincing case for its finding of no significant impact," and 4) show that even if a significant impact will occur, "changes or safeguards in the project sufficiently reduce the impact to a minimum."[108]

The court then reviewed the Commission's change to WCD finding number two—that a permanent repository would be available "when necessary." The court found the Commission's analysis deficient, as the Commission "did not examine the environmental effects of failing to establish a repository."[109] The court noted that, under NEPA, such an analysis would be unnecessary if the probability of Failure to build a repository is "so low as to be 'remote and speculative,' or if the combination of probability and harm is sufficiently minimal."[110] According to the court, however, current uncertainty regarding whether a repository will be built places it beyond the "too remote and speculative" threshold.[111] Indeed, the possibility of a permanent repository not being built is a "far cry" from "remote and speculative," and "[t]he Commission can and must assess the potential environmental effects of [a failure to establish a repository]."[112]

Finally, the court reviewed the Commission's alterations to the WCD finding that SNF may be safely stored at a nuclear plant for sixty years after the plant's licensed life.[113] The court again held that the Commission's EA and resulting FONSI were inadequate—this time because the analysis was not forward-looking and only considered the

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107. *Id.* at 477.

108. *Id.* (alteration in original) (quoting Taxpayers of Michigan Against Casinos v. Norton, 433 F.3d 852, 861 (D.C. Cir. 2006).

109. *Id.* at 478.

110. *Id.* at 478–79.

111. *See id.* at 478 ("[T]he EA is insufficient because a finding that 'reasonable assurance exists that sufficient mined geologic repository capacity will be available when necessary,' does not describe a probability of failure so low as to dismiss the potential consequences of such a failure." (internal citation omitted)); *see also id.* at 479 ("Here, a 'reasonable assurance' that permanent storage will be available is a far cry from finding the likelihood of nonavailability to be 'remote and speculative.'").

112. *Id.*

113. *Id.*

risks of future leaks similar to those that have already occurred.[114] The court also held that the analysis was insufficient for its failure to investigate both the consequences of pool fires as well as the probability of such fires occurring; according to the court, the possibility of a pool fire is not so "remote and speculative" as to preclude an analysis of its consequences.[115] While the court faulted NRC's analysis for a variety of reasons, it rejected the petitioners' argument that the analysis had to review each plant and its risks individually.[116] The court nevertheless found the analysis so flawed as not to merit the court's deference.[117]

In summary, the court held that the Commission's WCD findings constituted a federal action subject to NEPA, and the Commission's EA was insufficient as it did not adequately evaluate the environmental risks of NRC's decisions.[118] While the court did not find it necessary for the analysis concerning the impacts of storing SNF for sixty years to be site-specific, it nonetheless avowed that the analysis must be substantially forward-looking and, unless the probability of a risk is "effectively zero," the reviewing agency must "account for the consequences of each risk."[119]

II. ANALYSIS

One can hardly doubt from the number of NEPA challenges brought annually, and the frequency with which the challenges involve climate change, that environmentalists believe NEPA is a viable method to tackle climate change. Unfortunately, the state of the CEQ regulations[120] and the holdings thus far by the federal courts of appeals suggest that NEPA's review of climate change impacts—

114. *Id.* at 481. The court disapproved of NRC's reasoning that, because past leaks from spent fuel have caused little harm, extending storage of SNF for an additional thirty years will also cause no significant impacts. *Id.* Instead, the court stated that "a proper analysis of the risks would necessarily look *forward* to examine the effects of the additional time in storage, as well as examin[e] past leaks." *Id.* More specifically, the court stated that just because past leaks have not been harmful does not address whether and how future leaks might occur and their potential impacts. *Id.*

115. *Id.* at 481–82.

116. *Id.* at 480.

117. *Id.* at 481.

118. *Id.* at 473.

119. *Id.* at 483.

120. *See infra* Part II.A.

including when such impacts must be considered in an EA or EIS, the detail necessary in the analysis, and therefore NEPA's effectiveness in abating emissions—is still very much undetermined.[121] Parts II.A and II.B analyze each source of authority on the matter and find that the climate change considerations required by the courts and the executive branch to satisfy NEPA, thus far have been cursory. In Part II.C, the Comment turns to the *New York v. NRC* ruling to argue that it has the capacity to raise the bar of climate change analysis under NEPA.

A. *CEQ Draft Guidence Leaves Much to Be Desired: Both Substantively and Procedurally*

Although one would expect the agency in charge of issuing guidance and regulations on NEPA to provide a definitive answer as to the role of climate change considerations in an EIS or EA, CEQ's Draft Guidance provides little assistance on the matter. This is the case both substantively and procedurally.

The substance of the Draft Guidance does not provide much direction as it leaves the bulk of instances in which climate change could be considered up to individual agencies.[122] For example, regarding cumulative GHG emissions of a proposal, CEQ sets no threshold amount at which cumulative emissions trigger consideration in an EIS or EA; instead, CEQ allows each individual agency to make its own determination of when cumulative GHG emissions must be addressed under NEPA.[123] This is in contrast to CEQ's direction that proposals with direct annual emissions of more than 25,000 metric tons "*may* warrant *some* description in the appropriate NEPA analysis."[124] Thus, even where annual emissions exceed 25,000 metric tons, there is still room to avoid calculating climate change impacts or to provide only minimal review.[125] Further encouraging marginalization of climate change impacts, the Draft Guidance reminds agencies that climate change is a global problem, so agencies should be "realistic"

121. *See infra* Part II.B.

122. *See supra* Part I.B.

123. *See supra* text accompanying note 43.

124. Sutley Memorandum, *supra* note 18, at 2 (emphasis added).

125. *See* Jeff Thaler, *Greenhouse Gas Litigation and NEPA: A Split in the Courts*, 5 ABA TRENDS 12, 12–13 (2012) (arguing that climate change consideration required under NEPA will remain in flux and increasingly divergent unless the Supreme Court rules on the matter or unless Congress acts comprehensively to regulate emissions).

to ensure the information provided is useful.[126] This statement reinforces under-inclusion of information.[127] The CEQ also notes that "agencies should recognize the scientific limits of their ability to accurately predict climate change effects . . . and not devote effort to analyzing wholly speculative effects,"[128] as if advancing climate change considerations in NEPA analysis but in the same breath retracting it. This sentence in particular gives significant fodder for the affirmative "remote and speculative" defense agencies may raise to preclude climate change impacts from an EIS or EA.[129] In other words, defendants could point to this language as proof that even CEQ recognizes climate change impacts as "remote and speculative," rendering moot a challenge to an EIS or EA as inadequate for failure to consider GHG impacts.

Where agencies have resolved to consider climate change ramifications of a proposal—because annual emissions are over 25,000 metric tons[130] or the agencies have done so on its own accord—CEQ directs agencies to discuss possibilities to reduce GHG emissions.[131] Un-Unfortunately, CEQ then provides a very limited set of examples that may warrant a discussion of GHG impacts and opportunities for miti-

126. Sutley Memorandum, *supra* note 18, at 2.

127. Professor Madeline June Kass reached a similar conclusion about the previous guidelines. *See* Kass, *supra* note 39, at 58–67 (stating that "the lead agency need not evaluate (or closely evaluate) climate related impacts—and may even deem it inappropriate to do so").

128. *Sutley* Memorandum, *supra* note 18, at 2.

129. Giving CEQ the benefit of the doubt, it does not appear that its prescription against analyzing "wholly speculative effects" of climate change was done intentionally to prohibit climate change consideration in NEPA analyses altogether. Rather, it appears its prescription was meant to limit how much information should be included in such an analysis. *See id.* (directing agencies to focus on "significant source[s] of GHGs" but warning them not to focus on "wholly speculative efforts"). Nonetheless, it would not take much lawyering to use CEQ's own language to argue that climate impacts are not only not required, but are discouraged.

130. *See id.* at 1 (establishing the threshold limit). One benefit to specifying a threshold of direct emissions triggering an EIS is the pressure this creates on projects that would normally be over 25,000 metric tons to incorporate mitigation measures to go below the threshold and avoid an EIS. For an interesting discussion of how NEPA could be used to "tip the balance in favor of this form of voluntary mitigation," see Amy L. Stein, *Climate Change Under NEPA: Avoiding Cursory Consideration of Greenhouse Gases*, 81 U. COLO. L. REV. 473, 538 (2010).

131. Sutley Memorandum, *supra* note 18, at 2.

gation: "approval of a large solid waste landfill; approval of energy facilities such as a coal-fired power plant; or authorization of a methane venting coal mine."[132] Although CEQ does not specify that the list is exhaustive, the nature of these examples further suggests that GHG emissions are only required in an EIS or EA for projects with the most direct emissions impacts.[133] Thus, ultimately, agencies receive no more direction substantively than they had previously,[134] or perhaps less optimistic, the Draft Guidance suggests that an analysis of climate change impacts has a limited role in an EIS or EA and is only required in the most obvious of projects.[135]

Procedurally, the Draft Guidance also fails to provide concrete authority. First issued in February 2010, the Draft Guidance remains merely a guideline and a *draft* guideline at that.[136] Per the Supreme Court in *General Electric Co. v. Gilbert*,[137] agency interpretations, including guidance documents, are "entitled to consideration . . . . But . . . courts properly may accord less weight to such guidelines than to administrative regulations which Congress has declared shall have the force of law . . . ."[138] The amount of deference, *Skidmore v. Swift & Co.*[139] instructs, "depend[s] upon the thoroughness evident in [the guidance documents] consideration, the validity of its reasoning, its consistency with earlier and later pronouncements, and all those factors which give it power to persuade, if lacking power to control."[140] Thus, the draft nature of the guidelines, along with the fact that the

132. *Id.* at 3.

133. Each of these examples would likely cause significant GHG emissions. Had CEQ listed projects with less obvious GHG emissions impacts, such as building a new federal building, approving a permit for a new airport, or building a new highway, it would have suggested that GHG impacts should be considered more broadly.

134. Previous CEQ guidance on the role of climate change impacts in an EIS or EA was extremely limited and was couched in a memorandum addressing how cumulative impacts should be analyzed under NEPA. *See supra* note 39.

135. *See supra* notes 124–128, 132–133 and accompanying text.

136. It should be noted that the earlier guidance issued by CEQ also shared this problem. *See supra* note 39.

137. 429 U.S. 125 (1976).

138. *Id.* at 141 (citation omitted).

139. 323 U.S. 134 (1944).

140. *Id.* at 140.

Draft Guidance explicitly states that it is subject to change,[141] suggest that the Draft Guidance is not likely to persuade.

In conclusion, the Draft Guidance is not of much consequence, and it fails to give NEPA a meaningful role in combating climate change.[142] Specifically, rather than affirmatively state that climate change is neither "remote" nor "speculative," which would bar an affirmative defense in NEPA challenges, CEQ makes contradictory statements. In one paragraph, CEQ states that climate change should be considered in EISs and EAs, and then in the next, it limits such analysis to only the most direct sources of emissions and to a restrained discussion of such impacts.[143]

B. Not Surprisingly, the Courts Are Equally Conflicted in Assessing the Adequacy of Climate Change Analysis

In 2011, there were forty-eight federal courts of appeals opinions on NEPA litigation.[144] Interestingly, none of them dealt with climate change; it is only a matter of time, however, until additional circuits tackle the issue.[145] While it appears likely, especially after the Supreme Court's *Massachusetts v. EPA* decision, that GHG emissions will be held appropriate considerations under NEPA,[146] the standard of review is likely to vary.[147] Specifically, in determining the adequacy of

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141. *See supra* text accompanying note 55.

142. *See* James R. Holcomb, IV, *NEPA and Climate Change: After the CEQ's Draft Guidance*, 41 TEX. ENVTL. L.J. 259, 268 (2011) (concluding similarly that the CEQ guidelines are largely a failure due to their inability to provide substantive guidance on when and how to analyze GHG and climate change effects).

143. *See supra* notes 40–44 and accompanying text. *But see* notes 123–130 and accompanying text.

144. *Environmental Impact Assessment 2011 Annual Report*, 2011 ABA ENV'T ENERGY, & RESOURCES L.: YEAR IN REV. 347, 347 (2011). The Ninth Circuit decided twenty-five of the forty-eight decisions. *Id.*

145. As one-sixth of climate change litigation is filed under NEPA, Markell & Ruhl, *supra* note 57, at 57, it is only a matter of time before additional courts of appeals must deal with the matter.

146. It is highly likely as *Massachusetts v. EPA* recognized the magnitude of the environmental problems caused by GHG emissions and held that EPA has authority to regulate GHG emissions under the Clean Air Act. 549 U.S. 497, 521–26, 528 (2007).

147. For example, will the standard of review be the searching standard the Ninth Circuit has imposed or will it be more deferential like the Eighth Circuit's standard? *See supra* Part I.C.

the emissions analysis in EISs and EAs, courts will vary significantly, as illustrated by *Center for Biological Diversity* and *Mayo*.[148]

While the cases are not perfectly analogous—one dealt proactively with CAFE standards meant to conserve energy resources while the other dealt with the construction of a railway to deliver coal more quickly and cheaply to power plants—some observations can be drawn.[149] It appears that the Ninth Circuit will conduct a thorough review, scrutinizing the adequacy of EISs and EAs for their analysis of GHG emissions among other environmental impacts.[150] Despite the fact that the CAFE standards at issue in *Center for Biological Diversity* would have led to a reduction in carbon emissions, the Ninth Circuit still found the NEPA review inadequate as the agency did not consider making *further* reductions.[151] In contrast, the Eighth Circuit in *Mayo* held that the NEPA review of environmental impacts, including climate change, was adequate where the project would result in an increase in emissions and where the air emission impacts were not determined at a local level.[152] The court held that the NEPA analysis, which concluded that the project would increase emissions regionally and nationally by only one percent, was sufficient.[153] Yet, it is not surprising that the national emissions impacts would be less than one percent, for there are many sources of GHG emissions.[154] Had the Eighth Circuit required a more local review, however, the emission impacts most certainly would have been larger than one percent.[155]

148. *See supra* Part I.C.

149. It should be noted that the agency at issue in *Mayo* was not tasked expressly with any conservation goals, a significant difference worth pointing out which may have had an impact on the emissions analysis.

150. *See supra* Part I.C.1.

151. *See supra* text accompanying notes 67–69.

152. *See supra* Part I.C.2.

153. *See supra* notes 85–86 and accompanying text.

154. See Kass, *supra* note 39, at 60–63 for what she refers to as the "Death-by-a-Thousand-Puffs" problem of NEPA, created because there are so many sources of GHG emissions that each individual source may seem insignificant, but cumulatively creates a great problem.

155. By localizing the problem of GHG emissions—as opposed to comparing sources nationally—more future GHG sources would meet the threshold significance requirement, thereby encouraging more mitigation. While a planned factory may be a small source of GHG emissions nationally (thus failing to meet the significant impact required for an EIS), by narrowing the focus locally, the factory's emissions likely would be sizable, triggering an EIS and the benefits that stem from it.

Like so many things, the devil is in the details. Emissions from a proposed project will almost always seem insignificant when compared nationally or regionally. This approach is a bit like the dieter who continuously concludes, "what is one more cookie?" Like Chief Judge Wald wrote in her dissent many years ago, are we not missing the forest for the trees if we include climate change impacts in an EIS and EA, but do so only with a national or regional focus?[156] To assess accurately the environmental impacts of a project, the emissions impact review should be much more local.[157] In this way, the agency is better informed of the environmental impacts of the proposal, meeting the purpose of NEPA.[158]

Even more troubling about the Eighth Circuit's ruling is its acceptance of the agency's conclusion that the local air quality effects of the proposal to deliver coal more quickly and cheaply to the power plants were "speculative" and "ultimately unforeseeable."[159] While the Eighth Circuit originally stated that "it is almost certainly true—that the proposed project will increase the long-term demand for coal and any adverse effects that result from burning coal,"[160] this searching standard seems to have evaporated in the final *Mayo* opinion in which the court accepted the defendants' argument that the local air quality impacts were too difficult to predict and were merely speculative.[161] The court's ultimate conclusion is a far cry from the first remand.[162] The court essentially adopted the policy that a NEPA review is sufficient when some of the environmental impacts are uncovered, as opposed to the comprehensive and proactive approach suggested by the Ninth Circuit.[163]

The conclusions that can be drawn from these cases are: (1) while "remote and speculative" may not be a defense to avoid climate change considerations in EISs generally, it is still a defense that is raised regarding cumulative effects analyzed nationally or regional-

156. *See supra* text accompanying note 75.

157. This solution also avoids the problem Professor Kass dubbed "No-Project-Left-Behind," in which every project that increases GHGs requires an EIS, creating significant administrative challenges. Kass, *supra* note 39, at 66–68.

158. *See supra* note 16 and accompanying text.

159. *See supra* note 87 and accompanying text.

160. Mid States Coal. for Progress v. Surface Transp. Bd., 345 F.3d 520, 549 (8th Cir. 2003).

161. *See supra* notes 84–87 and accompanying text.

162. *See supra* notes 84–87 and accompanying text.

163. *See supra* Part I.C.1.

ly;[164] (2) while nominal progress is being made to include climate change considerations in NEPA analysis, there is much more progress to be made;[165] and (3) if, after only two circuits have reviewed climate change impacts under NEPA, there is already a lack of uniformity regarding the details required to pass an adequacy challenge, then the case law in this area is likely to become even more diverse as additional federal courts of appeals review this issue.[166]

C. New York v. NRC *and the Opportunity It Poses*

Although the NEPA challenge brought by petitioners against NRC did not argue inadequate change analysis, the ruling nonetheless sets a new point of reference for NEPA and the "remote and speculative" issue.[167] This Part of the Comment argues that this new reference point should be used in future NEPA challenges (1) to rebut any remote and speculative justifications for avoiding a NEPA analysis of the cumulative climate change impacts of proposals and (2) to ensure that the level of detail regarding the climate change impacts is sufficient.

Although nuclear power and the threats posed by storing spent fuel are quite different from those posed by climate change, there are significant similarities. First, the magnitude of potential harm is similar. While the harm posed from spent nuclear waste is potentially more localized, if one considers the harm climate change is predicted to bring globally from severe weather events, droughts, and flooding, the overall environmental impacts are just as deadly.[168] Second, the "uncertainty" of the risk and thus the ability to predict the harm that will result is equally difficult. Scientists disagree, but spent nuclear

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164. *See supra* Part I.C.2.

165. *See supra* Parts II.A–B. For an in-depth review of the cursory nature of the limited EISs containing climate change considerations, see Stein, *supra* note 130, at 477. Professor Amy L. Stein concluded that historically, ninety-nine percent of EAs result in a FONSI and studied every EIS completed by the Bureau of Land Management from 2007–2008. *Id.* Of the thirty-five EISs completed in that timeframe, thirteen made no mention of climate change, seven only contained stock language on the matter, and only fifteen quantified GHG emissions with only three discussing GHG mitigation. *Id.*

166. *See supra* note 148 and accompanying text.

167. *See supra* Part I.D.

168. For a discussion on the future impacts of climate change see Caleb W. Christopher, *Success by A Thousand Cuts: The Use of Environmental Impact Assessment in Addressing Climate Change*, 9 VT. J. ENVTL. L. 549, 559–60 (2008).

waste may remain radioactive for 10,000 to 1,000,000 years.[169] Imagine the difficulties of a NEPA analysis projected that far into the future. While climate change models frequently show the difficulty in precisely predicting what climate change impacts will occur where and at what moment, one would be hard pressed, when comparing the environmental impacts of spent radioactive waste and climate change, to claim that the impacts of climate change are less certain.[170]

In *New York v. NRC*, the court determined that the possibility that a permanent repository for spent fuel would not be built was a "far cry" from the too "remote and speculative" threshold precluding environmental impact analysis.[171] Yet, the likelihood that climate change and its predicted impacts will occur is just as likely, if not more likely.[172] It would be inconsistent to allow the environmental impacts of proposals affecting climate change to go unaddressed, even when localized and difficult to define with precision, as in the *Mayo* case,[173] but to insist that the environmental impacts of spent fuel lacking a permanent repository must be analyzed.[174] The comparison is made not to suggest that the environmental impacts of spent fuel should

169. Testimony of Robert Meyers, Principal Deputy Assistant Adm'r for the Office of Air and Radiation, U.S. Envtl. Prot. Agency Before the Subcomm. on Energy and Air Quality Comm. on Energy and Com., U. S. House of Representatives (July 15, 2008), *available at* http://www.epa.gov/ocir/hearings/testimony/110_2007_2008/2008_0715_rjm.pdf (explaining the range in predictions of how long spent nuclear fuel remains radioactive).

170. The most authoritative reports on the future impacts of climate change are from the Intergovernmental Panel on Climate Change. Its most recent comprehensive report from 2007 concludes that by 2020, between 75 and 250 million people in Africa will be exposed to increased water stress and the country's agricultural yield could be reduced by 50%. It predicts that coastal areas of Asia, particularly the heavily populated areas, will be at great risk of flooding, and endemic morbidity and mortality from disease will rise due to floods and droughts. The analysis continues with specific forecasts for each country. North America is expected to have decreased agricultural yields in the south and an increase in yields elsewhere. Heat waves in cities are expected to increase in number, intensity, and duration with negative health impacts. INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, CLIMATE CHANGE 2007: SYNTHESIS REPORT SUMMARY FOR POLICYMAKERS 11 (2007), *available at* http://www.ipcc.ch/pdf/assessment-report/ar4/syr/ar4_syr_spm.pdf.

171. New York v. Nuclear Regulatory Comm'n, 681 F.3d 471, 479 (D.C. Cir. 2012).

172. *See* INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, *supra* note 170 at 7–8 (discussing the "*high agreement*" among scientists that changes to the climate are "*very likely*" to be more significant in the twenty-first century than they were in the twentieth).

173. *See supra* Part I.C.2.

174. *See supra* Part I.D.

not be accounted for, but rather that increases—and decreases[175]—in GHG emissions have equal environmental impacts and require equally detailed environmental analysis.[176] From this perspective it is reasonable to draw from NEPA case law concerning nuclear impacts to inform new NEPA litigation concerning climate impacts. As such, *New York v. NRC* arms attorneys with a significant reference point to rebut the "remote and speculative" defense that continues to surface.

Next, where courts hold that climate change impacts are required under NEPA, the case also provides fodder for a thorough analysis, including localized effects, as opposed to only the cursory review that characterized *Mayo*.[177] If, under *New York v. NRC*, the federal agency is held to a high standard of NEPA review before changing its regulations on the storage of SNF on site for sixty years beyond a plant's licensed life,[178] so too should the climate change impacts of other federal agencies be equally scrutinized.[179]

III. CONCLUSION

In conclusion, the role that NEPA will play in curbing U.S. GHG emissions is still very much undecided.[180] While federal courts of appeals are likely to continue to hold that GHG emissions are appropriate considerations under NEPA,[181] when such an analysis is required and the standard of review used in determining the adequacy of such an analysis remains unknown.[182] The Draft Guidance authored by CEQ leaves this decision largely to each individual agency.[183] The only

175. The court in *Center for Biological Diversity*, for example, considered a case in which a federal proposal would decrease emissions. Ctr. for Biological Diversity v. Nat'l Highway Traffic Safety Admin., 508 F.3d 508, 556 (9th Cir. 2007) (holding that it was improper to remand and immediately require an EIS, rather the agency could determine whether to do a revised EA or a complete EIS, yet nonetheless affirming that the original EA was inadequate), *vacated and superseded on denial of reh'g* by 538 F.3d 1172 (9th Cir. 2008).

176. *See, e.g.*, *supra* text accompanying note 67.

177. *See supra* Part I.C.2; *see also supra* note 165.

178. *See supra* note 114 and accompanying text.

179. For an argument against increasing the standard of review of climate change considerations under NEPA, see C. Grady Moore, III et al., *Indirect Impacts and Climate Change: Assessing NEPA's Reach*, NAT. RESOURCES & ENV'T, at 30, 35 (2009).

180. *See supra* Parts I.B–C.

181. *See supra* note 88 and accompanying text.

182. *See supra* Part II.B.

183. *See supra* Part II.A.

circuit courts that have dealt with the issue thus far have diverged, further highlighting the quandary and the range of opinions that are likely to be issued without leadership from CEQ, Congress, or the President.[184] On the one hand, the Ninth Circuit has acted proactively[185] and has taken its judicial review of EISs seriously, setting precedent that even where a project will *reduce* GHG emissions, its EIS may still be inadequate for failing to consider *further* reductions.[186] The Eighth Circuit, on the other hand, has adopted a far more deferential standard of review, accepting the assertion that GHG emissions and their impacts are too difficult to predict.[187] Additionally, it established precedent that projects causing a one-percent increase in national emissions are insignificant.[188] While this conclusion may seem reasonable, it is in stark contrast to the Ninth Circuit precedent that even a .02% *decrease* in emissions is significant.[189]

For the environmental lawyer interested in, at the very least, stabilizing U.S. GHG emissions, NEPA is one avenue worthy of pursuit. As NEPA's utility in curbing climate change continues to be determined through litigation, environmental advocates should turn to NEPA case law, beyond climate change, to overcome agency arguments against thorough consideration of GHG impacts in EISs.[190] Particularly, this should be done to overcome the "remote and speculative" defense defendants will predictably raise.[191] In overcoming this obstacle, the *New York v. NRC* decision provides environmental advocates with a poignant point of reference.[192] The courts have been dealing for years with difficult-to-predict, far-off-in-the-future potential impacts in the nuclear context, but they have nonetheless settled on a searching standard of review.[193] As the environmental impacts from climate change are equally damaging as the hazards posed by spent nuclear fuel, it is appropriate to import the searching standard

184. *See supra* Part II.B.

185. *See supra* Part II.B.

186. *See supra* Part I.C.1.

187. *See supra* Part I.C.2.

188. *See supra* Part I.C.2.

189. *See supra* Part II.B.

190. *See supra* Part II.C.

191. *See supra* Part II.C.

192. *See supra* Part I.D.

193. *See supra* Part I.D.

adopted in *New York v. NRC*.[194] By turning to *New York v. NRC*, environmental advocates can ensure that NEPA plays a meaningful role in reducing U.S. emissions.

194. *See supra* Part II.C.