

UNITED STATES DISTRICT COURT  
FOR THE DISTRICT OF COLUMBIA

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NATURAL RESOURCES DEFENSE	)	
COUNCIL, INC.,	)	
	)	
Plaintiff	)	Civil Action No. 08-1363 (RJL)
	)	
-v.-	)	
	)	
UNITED STATES DEPARTMENT OF	)	
STATE, et al.,	)	
	)	
Defendants	)	
	)	
TRANSCANADA KEYSTONE	)	
PIPELINE, LP,	)	
	)	
Defendant-Intervenor	)	

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**PLAINTIFF NRDC'S MOTION FOR SUMMARY JUDGMENT  
AND SUPPORTING MEMORANDUM OF POINTS AND AUTHORITIES**

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## MOTION FOR SUMMARY JUDGMENT

Plaintiff Natural Resources Defense Council, Inc. (“NRDC”), pursuant to Federal Rule of Civil Procedure 56 and Local Civil Rule 7(h), hereby moves for summary judgment on the grounds that Defendants United States Department of State, et al. (“DOS”) have violated the National Environmental Policy Act (“NEPA”), 42 U.S.C. §§ 4321 *et seq.*, and the Administrative Procedure Act (“APA”), 5 U.S.C. § 706, by failing to prepare an adequate Environmental Impact Statement (“EIS”) before issuing a Presidential Permit for the Keystone pipeline project. NRDC requests that this Court enter a judgment (1) declaring that DOS issued the Permit in violation of NEPA and the APA, and (2) directing (a) DOS to rescind the Permit, and (b) Keystone to cease all further activity in furtherance of pipeline construction and operation, unless and until DOS fully complies with NEPA and the APA. NRDC also requests that the Court retain jurisdiction to ensure compliance and award NRDC its reasonable attorneys’ fees and costs. The Points and Authorities in support of this Motion are set forth below.

NRDC respectfully requests leave to present oral argument on this Motion.

### INTRODUCTION

This case challenges DOS’ decision to authorize a new pipeline project to carry over a half-million barrels a day of heavy crude oil to U.S. refineries without analyzing the environmental impacts of refining that oil. The Keystone project would add Western Canadian heavy crude oil to the U.S. market in a volume equal to roughly two percent of our entire domestic crude oil consumption and is already prompting refinery expansions across the central United States. Because this Western Canadian heavy crude is significantly more polluting to refine than lighter crude oils, however, Keystone is likely to materially increase pollution at U.S. refineries even where Keystone oil merely replaces other crude oil supplies to those refineries.

DOS' Final Environmental Impact Statement ("FEIS") dismisses the environmental impacts of refining Keystone oil as "speculative" or otherwise beyond the scope of its review, even as it acknowledges that the pipeline's sole purpose is to meet refinery demand. The FEIS does not even name most of the refineries – several owned by Keystone partner ConocoPhillips – that had made public commitments to purchase Keystone oil before DOS concluded its review under NEPA. It also fails to provide even general estimates of the air and water emissions associated with refining the massive volume of oil the pipeline will deliver, emissions that likely will account for some of Keystone's most significant domestic pollution.

By refusing to investigate the reasonably foreseeable environmental impacts of the very refining activity it approved Keystone to support, DOS breached its NEPA duties to "consider every significant aspect" of the proposal's environmental impacts and "inform the public" about those impacts before deciding whether to allow construction of the pipeline in the United States. *Baltimore Gas & Elec. Co. v. Natural Res. Def. Council*, 462 U.S. 87, 97 (1983) (citation omitted). Because it was unlawful for DOS to issue a Presidential Permit to Keystone without considering the project's significant contributions to refinery pollution and associated threats to public health and the natural environment across the nation, this Court should grant summary judgment to NRDC, rescind the Permit, and enjoin the project.

## **BACKGROUND**

### **I. The Environmental Impacts of Refining Western Canadian Heavy Crude Oil**

The Keystone project, as described in the FEIS, will carry heavy crude oil from the Western Canadian Sedimentary Basin ("WCSB") through nearly 2,000 miles of pipeline to hubs in Illinois and Oklahoma. Pl. NRDC's Separate Statement of Undisputed Facts (hereinafter

“PSF”)<sup>1</sup> ¶¶ 5, 9-10, 32. This oil is expected to include oil derived from bitumen (tar) extracted from Canadian tar sands, also known as “oil sands.” PSF ¶¶ 10-11.

Heavy crude oils from the WCSB, including tar sands oils (hereinafter “Western Canadian heavy crude” oils) have comparatively higher concentrations of large, dense hydrocarbon molecules and than most crude oils on the world market, including the lighter crude oils typically processed by refineries in the Midwestern United States today.<sup>2</sup> PSF ¶¶ 101-102. Western Canadian heavy crude oils also have higher viscosity and acidity, and higher concentrations of sulfur and certain other contaminants, than lighter oils. PSF ¶¶ 101-103. Western Canadian heavy crude oils, particularly those derived from tar sands, typically contain far more nitrogen and heavy metals (including lead, nickel, chromium, boron, arsenic, zinc, and vanadium) than lighter crude oils. PSF ¶ 102.

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<sup>1</sup> NRDC’s Statement refers to, *inter alia*, the expert Declarations of Galen Hartman and Greg Karras and exhibits submitted as attachments to the authenticating Declaration of Selena K. Kyle. As we explain in our concurrently filed Motion for Leave to Submit Extra-Record Evidence, the Hartman and Karras Declarations and Exhibits G through S of the Kyle Declaration present evidence that is unlikely to be included in any administrative record DOS compiles for this case, but that is properly before the Court because it bears on DOS’ failure to consider relevant factors in its FEIS for Keystone. Statements that rely on this extra-record material are indicated with an asterisk (*e.g.*, “PSF\*”) throughout this brief and in the Statement.

<sup>2</sup> Because DOS’ FEIS for Keystone simply does not address the refining impacts identified in this brief, our discussion relies on preliminary analyses of facts gathered from other sources, including extra-record sources. *Supra* n.1; NRDC Mot. for Leave to Submit Extra-Record Evidence at 1-7. These analyses support review of NRDC’s claim that DOS “failed to consider the relevant factors” by illustrating the existence and general significance of the omitted impacts, *see* NRDC Mot. for Leave to Submit Extra-Record Evidence; but cannot substitute for the precise, detailed and comprehensive review of refining impacts NEPA obliged DOS to conduct before approving the Keystone project. *See Humane Soc’y v. U.S. Dep’t of Commerce*, 432 F. Supp. 2d 4, 22-23 (D.D.C. 2006) (where an agency has “‘failed first’” by neglecting to provide sufficient detail in its EIS, a NEPA plaintiff need not specify all “potential impacts that should have been included” (quoting *City of Carmel-by-the-Sea v. U.S. Dep’t of Transp.*, 123 F.3d 1142, 1161 (9th Cir. 1997))); *cf. Humane Soc’y v. Johanns*, 520 F. Supp. 2d 8, 20 (D.D.C. 2007) (declining to consider Defendants’ factual attack on “Plaintiffs’ assessment of the ‘significance’” of neglected impacts where “the related-[*sic*] NEPA analysis was never conducted by the agency in the first instance”).

These features of Western Canadian heavy crude oils affect how those oils are refined, and can be expected to increase significantly the amounts of some air and water pollution released as a result of refining. PSF ¶¶ 104-113. For example, the refining of these oils can result in releases of heavy metals including lead, carbon dioxide, carbon monoxide, and several nitrogen and sulfur compounds that exceed those that result from refining similar quantities of lighter crude oils. PSF ¶ 104. Many of these compounds are hazardous to humans and wildlife. PSF ¶¶ 55, 104-106. When released as air pollutants, they contribute to decreased visibility and odors. PSF ¶ 104. Conversion to Western Canadian heavy crude oil refining from lighter crude oil refining may also increase the frequency and volume of toxic gas releases and other concentrated air pollution that may expose people living near refineries to severe pollution and associated health risks. PSF ¶ 105. Much of this pollution is either unregulated or poorly controlled by the permits issued to refineries under the federal Clean Air Act and Clean Water Act. PSF ¶ 107.

The refining of Western Canadian heavy crude oils also can be expected to generate significantly higher greenhouse gas emissions than the refining of lighter crude oils. PSF ¶¶ 108-111, 113. Refineries often must make more intensive use of their existing equipment and install additional equipment to process Western Canadian heavy crude oils in lieu of lighter crude oils. PSF ¶ 108. These process and equipment changes substantially increase the amount of energy refineries need to process each barrel of oil. PSF ¶ 109. The increased energy demands are typically satisfied through the burning of other fossil fuels. PSF ¶ 110. The resulting increases in greenhouse gas emissions per barrel of oil refined are substantial, PSF ¶¶ 112, 115, and would contribute to climate change and associated threats including sea level rise and property damage, severe weather events, lasting disruptions to natural ecosystems,

and the spread of disease. *Massachusetts v. U.S. Envtl. Prot. Agency*, 549 U.S. 497, 127 S. Ct. 1438, 1454-56 (2007).

Because the refining of Western Canadian heavy crude oils can be expected to generate more air and water pollution, barrel for barrel, than lighter crude oil refining, a shift towards increased use of Western Canadian heavy crude oil is likely to increase pollution substantially even at refineries that do not expand their refining capacity with the change in supply.

PSF ¶¶ 111-112. Where increased use of Western Canadian heavy crude oils is accompanied by expansions in refining capacity, the pollution impacts are likely to be even greater. PSF ¶ 113.

## **II. DOS' Review and Approval of the Keystone Project**

The Secretary of State has the authority to issue Presidential Permits “for the construction, connection, operation, or maintenance, at the borders of the United States, of facilities for the . . . importation of petroleum, petroleum products . . . or other fuels to or from a foreign country.”<sup>3</sup> Exec. Order No. 13,337, *as amended*, 69 Fed. Reg. 25,299, 25,299 (Apr. 30, 2004). The Secretary is authorized to grant Permits that she determines “would serve the national interest,” *id.* at 25,300, pursuant to an executive policy that deems “increased production and transmission of energy in a safe and environmentally sound manner . . . essential to the well-being of the American people.” Exec. Order. No. 13,212, 66 Fed. Reg. 28,357, 28,357 (May 18, 2001); *see also* Exec. Order No. 13,337, 69 Fed. Reg. at 25,299 (incorporating policy statement in Exec. Order No. 13,212). The Executive Order that empowers the Secretary to issue Presidential Permits preserves the Secretary’s obligations under other federal law (including NEPA). 69 Fed. Reg. at 25,299, 25,301 (§ 5).

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<sup>3</sup> Defendant Secretary of State Condoleezza Rice has delegated her authority to issue Presidential Permits to Defendant Reuben Jeffery III, Under Secretary of State for Economic, Energy and Agricultural Affairs. PSF ¶ 1.

In April 2006, TransCanada Keystone Pipeline, LP (“Keystone”), a joint venture equally owned by ConocoPhillips Company and TransCanada Corporation,<sup>4</sup> applied for a Presidential Permit to construct and operate the Keystone pipeline in the United States.<sup>5</sup> PSF ¶¶ 2-4. DOS issued a Notice of Intent to prepare an EIS for Keystone in October 2006, a Draft Environmental Impact Statement (“DEIS”) for the project in August 2007, its FEIS in January 2008, and a Record of Decision (“ROD”) in February 2008. PSF ¶ 14. On March 11, 2008, DOS granted a Presidential Permit to Keystone. PSF ¶ 15.

As described in DOS’ ROD and FEIS, the proposed Keystone pipeline would cross the international border into the United States in Cavalier County, North Dakota and travel south through South Dakota, Nebraska, and Kansas. PSF ¶ 9. The pipeline would then branch into a “Mainline” that would cut east through Missouri to Wood River and Patoka, Illinois and a “Cushing Extension” that would continue south through Kansas to Oklahoma. *Id.* The completed Keystone project is expected to operate for at least a half-century. PSF ¶ 34. At maximum pumping capacity, Keystone would carry nearly 600,000 barrels per day (“bpd”) of Western Canadian heavy crude oil, a volume equivalent to roughly two percent of the United States’ entire domestic oil consumption.<sup>6</sup> PSF ¶¶ 10, 12. This represents, in the words of

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<sup>4</sup> At the time of the Permit application, Keystone was wholly owned by TransCanada. PSF ¶ 6. By the time DOS granted the Permit, ConocoPhillips had acquired a fifty percent ownership interest in Keystone pursuant to an option agreement described in the application. *See infra* at 16 & n.11; PSF ¶¶ 6, 99.

<sup>5</sup> Keystone’s application stated that it was “requesting a permit solely with respect to the limited border-crossing segment,” but went on to explain that the crossing was “an integral part of the proposed Keystone Pipeline Project . . . which is designed to transport incremental crude oil production from the Western Canadian Sedimentary Basin to markets in the United States.” PSF ¶ 5.

<sup>6</sup> Although some decision documents characterize the Cushing Extension as an optional addition to the project, public records indicate that well before the FEIS and Permit issued,

Keystone's April 2006 Presidential Permit application, a "substantial . . . incremental supply of Canadian crude oil" to U.S. refineries. PSF ¶ 4.

DOS' decision documents indicate that it approved Keystone with the express goal of bringing a significant new stream of heavy crude from the WCSB to refineries in several U.S. states. PSF ¶ 32 (FEIS, describing project as "dictated by" "U.S. demand for crude oil, particularly in the Midwest and Gulf States" and primarily designed to meet demand for heavy crude from refineries in these regions). These documents also confirm DOS' expectation that the Keystone project, if completed, would contribute to a significant shift in the U.S. refining market towards Western Canadian heavy crude and away from other, lighter crudes. DOS recognized that "[m]any U.S. refiners have completed or are in the process of completing retrofits to process heavier crude," including "the heavy crude oil that Keystone will deliver. . . ,"<sup>7</sup> PSF ¶ 69, and that a considerable portion of the oil Keystone would supply to U.S. refiners had already been "committed" in eighteen-year contracts that were likely to be renewed. PSF ¶ 37. DOS also acknowledged that the Keystone pipeline could encourage more overall U.S. refining than could otherwise occur by relieving projected bottlenecks in the existing pipeline network between the WCSB and the United States. PSF ¶ 70.

DOS thus understood both that Keystone was intended to supply Western Canadian heavy crude oil to multiple U.S. refineries and that its approval of Keystone could appreciably increase both heavy crude and total crude oil refining activity in the United States. Nonetheless, DOS' DEIS named and purported to analyze impacts at only a single U.S. refinery, Keystone

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Keystone and its partner companies had entered into contracts to supply oil through the Extension to refineries in Kansas and Texas. *See infra* at 16-19.

<sup>7</sup> DOS also stated that "heavy oil imports from the WCSB are expected to increase" even if the growth in total U.S. demand for crude oil slows. PSF ¶ 68.

partner ConocoPhillips' Wood River refinery in Roxana, Illinois. PSF ¶¶ 16, 71. DOS stated that Wood River would receive the "majority" of the 340,000 bpd of Keystone oil already sold in shipping contracts, and was "slated to undergo a Coker and Refinery Expansion (CORE) project" to increase both its total crude processing capacity and "heavier crude" capacity. PSF ¶ 17. DOS also asserted that "[a]ny other refinery upgrades due to the Keystone Project would be speculative at this time . . . . It is not possible to predict where the oil would be sent and what, if any, refinery upgrades would be required. It is likely that the oil shipped by the Keystone pipeline would be used to a limited degree as a replacement for other more expensive crude oil." PSF ¶ 19.

In their public comments on the DEIS, NRDC and others repeatedly urged DOS to identify and analyze impacts at other U.S. refineries likely to process Keystone oil. PSF ¶¶ 20-28. NRDC noted that the Keystone proposal was "already . . . catalyzing expansion at *several* refineries in the U.S."; that "[t]here is a noticeable twinning of proposals to increase pipeline capacity to bring in more tar sands oil into the United States and proposals to upgrade and expand refineries in areas serviced by the pipeline"; and that it was reasonable to expect further activity "in those areas identified as recipients of the pipeline's products," including the Midwest and Gulf Coast of the United States. PSF ¶ 21 (emphasis added). NRDC also noted that the conversion to heavy crude refining from lighter oil refining may increase emissions of certain pollutants significantly, and expressed concerns about the extent to which heavy crude refining "will increase local air and water pollution" and attendant threats to public health. PSF ¶¶ 26, 28. Other commenters echoed these concerns. PSF ¶¶ 24, 27, 29. The U.S. Environmental Protection Agency ("EPA"), for example, urged DOS to supplement its EIS to consider fully what refineries "may ultimately receive and process the Keystone Pipeline crude oil," "whether

or not these refineries may need to be upgraded” to process that oil, and the resulting impacts at these sites. PSF ¶ 24. NRDC and others also urged DOS to consider greenhouse gas pollution from the heavy crude refining activity associated with Keystone, noting that heavy crude oil refining may have substantially greater climate change impacts than the refining of other crudes “because of the massive amounts of energy needed to extract, upgrade, and refine the oil.” PSF ¶¶ 28-29.

DOS did not heed these comments. Although it was apparent by the time of DOS’ Permit decision that a half-dozen or more specific refineries could be poised to process Keystone oil, *see infra* at 16-19, DOS dismissed impacts at all but one as either “purely speculative,” or otherwise beyond the purview of an EIS it contended should be limited to analyzing the pipeline itself as a “transportation system.” *Infra* at 19-20. The FEIS also failed to explain how much air or water pollution actually would occur at any refinery processing Keystone oil, or describe the actual effects of that pollution on human health or the natural environment. *See infra* at 25-35. The FEIS’ near-total neglect of the heavy crude oil refining that Keystone was designed to support – and that likely accounts for among the project’s most significant pollution – was contrary to law and unsupported by the evidence available to DOS. This Court therefore must rescind the Presidential Permit and enjoin Keystone’s construction pending a full NEPA review.

### STANDARD OF REVIEW

Summary judgment is appropriate where “there is no genuine issue as to any material fact” and “the moving party is entitled to judgment as a matter of law.” Fed. R. Civ. P. 56(c); *Celotex Corp. v. Catrett*, 477 U.S. 317, 322 (1986). Judicial review of NRDC’s NEPA claims is governed by the APA, which requires courts to “hold unlawful and set aside agency action” that is “arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law.” 5

U.S.C. § 706(2)(A). Inquiry into facts should be “searching and careful,” albeit limited in scope. *Marsh v. Or. Natural Res. Council*, 490 U.S. 360, 378 (1989) (quoting *Citizens to Pres. Overton Park v. Volpe*, 401 U.S. 402, 416 (1971), *abrogated on other grounds*, *Califano v. Sanders*, 430 U.S. 99 (1977)). The reviewing court must assure itself that the agency took “a ‘hard look’ at the environmental consequences,” *Baltimore Gas*, 462 U.S. at 97-98 (quoting *Kleppe v. Sierra Club*, 427 U.S. 390, 410 n.21 (1976)), and “adequately considered *and disclosed*” those consequences, before acting. *Id.* at 97-98 (emphasis added). Agency action predicated on NEPA review that has “entirely failed to consider an important aspect of the problem” must be set aside. *Fund for Animals v. Williams*, 391 F. Supp. 2d 132, 136 (D.D.C. 2005) (quoting *Motor Vehicles Mfrs. Ass’n v. State Farm Mut. Auto. Ins. Co.*, 463 U.S. 29, 43 (1983)).

In reviewing DOS’ FEIS for Keystone, the Court must bear in mind that “[t]he subject of environmental impact is too important to relegate either to implication or to subsequent justification by counsel.” *Concerned About Trident v. Rumsfeld*, 555 F.2d 817, 827 n.25 (D.C. Cir. 1977) (quoting *NRDC v. Morton*, 458 F.2d 827, 836 (D.C. Cir. 1972)). “Congress mandated in section 102(2)(C) of NEPA that the pertinent information be contained wholly within the [EIS].” *Nat’l Wildlife Fed’n v. Marsh*, 568 F. Supp. 985, 996-97 (D.D.C. 1983). DOS’ compliance with NEPA therefore must be judged “solely by the grounds invoked by the agency” in the FEIS. *Humane Soc’y v. Dep’t of Commerce*, 432 F. Supp. 2d 4, 17 (D.D.C. 2006) (quoting *W. Res., Inc. v. Fed. Energy Reg. Comm’n*, 9 F.3d 1568, 1576 (D.C. Cir. 1993) and refusing to consider the merits of agency’s argument on issue unaddressed by its final NEPA document for the challenged action).

## STANDING

NRDC brings this lawsuit on behalf of its members, many of whom live, work, and recreate in areas likely to experience increased air and water pollution as a result of DOS' approval of the Keystone project, and all of whom will be affected by Keystone's contributions to greenhouse gas emissions and climate change.

NRDC has over 400,000 U.S. members and over 35,000 members in Illinois, Texas, Kansas, and Oklahoma, states that include hubs or refineries likely to be served by Keystone. PSF ¶ 118; *infra* at 16-19 (identifying refineries). NRDC members live near several of the refineries identified in this brief as likely to process heavy crude oil from the Keystone pipeline. PSF ¶ 119; *infra* at 16-19. These and other members rely on NRDC to provide them with information on current environmental issues that affect them, their communities, and the natural environments they treasure. PSF ¶ 120. NRDC relies on NEPA, among other vehicles, to develop this information. PSF ¶¶ 122-123. NRDC members are reasonably concerned that the refining of Keystone oil will increase pollution in their communities, threatening their and their families' health and the natural environments they enjoy. PSF ¶ 124. They also are reasonably concerned that Keystone will increase greenhouse gas emissions and contribute to climate change. PSF ¶ 125. These members would like better information about how this pollution will affect them than they have been able to obtain. PSF ¶ 126.

DOS' failure to comply with NEPA in issuing a Presidential Permit to Keystone thus has injured NRDC's members by depriving them of timely and complete information on the refinery pollution that will threaten them if the project proceeds. PSF ¶ 127. These facts establish standing under Article III because they establish that NRDC's members have suffered (1) individual "injury in fact" that is concrete and particularized as well as actual or imminent; (2)

fairly traceable to DOS' conduct; and (3) likely to be redressed by a favorable decision. PSF ¶ 126; *Friends of the Earth, Inc. v. Laidlaw Env'tl. Servs. (TOC), Inc.*, 528 U.S. 167, 180-81 (2000) (citing *Lujan v. Defenders of Wildlife*, 504 U.S. 555, 560-61 (1992)); *Lemon v. Geren*, 514 F.3d 1312, 1315 (D.C. Cir. 2008) (plaintiffs who lived "near where the federal action would occur and would feel the environmental effects of that action if it went forward" had Article III standing to challenge the government's failure to prepare a supplemental EIS for that action). They also establish prudential standing under NEPA. See *Nat'l Ass'n of Home Builders v. U.S. Army Corps of Eng'rs*, 417 F.3d 1271, 1287 (D.C. Cir. 2005) (finding "cognizable injury to environmental values" sufficient to establish prudential standing in a NEPA case (quotation omitted)).

NRDC has standing to sue DOS on its members' behalf because this suit is germane to NRDC's organizational interests in gathering and disseminating information on greenhouse gases and other pollution that threatens human health and the environment, and the suit does not require its members' individual participation, and those members would have standing to sue in their own right.<sup>8</sup> PSF ¶¶ 121, 128-130; *Hunt v. Wash. State Apple Adver. Comm'n*, 432 U.S. 333, 343 (1977) (describing three-factor organizational standing test).

## ARGUMENT

### **I. DOS Violated NEPA By Authorizing Keystone Without Taking a "Hard Look" at the Refining Activity that Will Account for Significant Pollution in the United States**

DOS approved Keystone for the express purpose of supplying Western Canadian heavy crude oil to U.S. refineries. It did so without ever estimating the actual pollution that is likely to

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<sup>8</sup> That Keystone ultimately may go forward even if NRDC prevails in this NEPA challenge does not affect NRDC's standing. *Lemon*, 514 at 1314-15; see also *Massachusetts*, 127 S. Ct. at 1453 ("When a litigant is vested with a procedural right, that litigant has standing if there is some possibility that the requested relief will prompt the injury-causing party to reconsider the decision that allegedly harmed the litigant" (citing *Lujan*, 504 U.S. at 572 n.7)).

result from refining Keystone oil, or identifying most of the facilities that will do the refining, in the mistaken belief that these impacts were beyond the scope of its review.

Whatever deference it must accord DOS' treatment of impacts actually identified in the FEIS, this Court "cannot defer to a void" in that analysis. *Or. Natural Desert Ass'n v. Bureau of Land Mgmt.*, 531 F.3d 1114, 1142 (9th Cir. 2008) (rejecting EIS that "used *no* method to analyze or plan for the management of" certain wilderness impacts of proposed action); *see also City of Alexandria v. Slater*, 198 F.3d 862, 871 (D.C. Cir. 2000) (noting "point at which an agency's analysis ventures from the tolerably terse to the intolerably mute . . . ." (quotation omitted)); *Found. on Econ. Trends v. Heckler*, 756 F.2d 143, 154 (D.C. Cir. 1985) (agency cannot defend decision not to conduct further environmental review by "[i]gnoring possible environmental consequences" of an action). The Court accordingly should set aside the Permit and enjoin construction until DOS has completed its NEPA review.

**A. NEPA Required DOS to Consider All Direct, "Reasonably Foreseeable" Indirect, and Cumulative Impacts of the Keystone Project in Its FEIS**

NEPA is Congress' direction to federal agencies to "recognize the worldwide and long-range character of environmental problems," 42 U.S.C. § 4332(2)(F), by thoroughly reviewing their contributions to those problems. The statute not only "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." *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 349 (1989).

"At the heart of NEPA is a requirement that federal agencies" prepare, for all "major Federal actions significantly affecting the quality of the human environment, a detailed

statement” typically known as an EIS. *Dep’t of Transp. v. Public Citizen*, 541 U.S. 752, 757 (2004) (citing 42 U.S.C. § 4332(2)(C)); 40 C.F.R. § 1508.11. The EIS must describe, among other things, “the environmental impacts of the proposed action” and “any adverse environmental effects which cannot be avoided should the proposal be implemented.” 42 U.S.C. § 4332(2)(C)(i), (ii). The Council on Environmental Quality’s (“CEQ’s”) NEPA regulations, which apply to DOS,<sup>9</sup> require the EIS to include a “full and fair discussion of significant environmental impacts” of a proposed action, 40 C.F.R. § 1502.1, whether “direct,” “indirect,” or “cumulative,” *id.* §§ 1502.16(a), (b), 1508.25(c), and of “means to mitigate adverse environmental impacts.” *Id.* § 1502.16(h).

“Direct effects”<sup>10</sup> are caused by the action and occur at the same time and place. 40 C.F.R. § 1508.8(a). “Indirect effects” “are caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable.” *Id.* § 1508.8(b). These must be analyzed wherever they bear a “reasonably close causal relationship” to the action, *Public Citizen*, 541 U.S. at 767, and “may include growth inducing effects and other effects related to induced changes in the pattern of land use, population density or growth rate, and related effects on air and water and other natural systems, including ecosystems.” 40 C.F.R. § 1508.8(b). “Cumulative impacts” “result[ ] from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency . . . or person undertakes such other actions,” *id.* § 1508.7, and include “individually minor but collectively significant actions taking place over a period of time.” *Id.*

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<sup>9</sup> DOS’ NEPA regulations, codified at 22 C.F.R. Part 161, reference and incorporate the CEQ NEPA regulations. *See* 22 C.F.R. § 161.1.

<sup>10</sup> NEPA uses “effects” and “impacts” interchangeably. *See Friends of the Earth, Inc. v. U.S. Army Corps of Eng’rs*, 109 F. Supp. 2d 30, 36 n.5 (D.D.C. 2000).

NEPA obliges agencies to address gaps and uncertainties in information pertinent to their NEPA reviews. Where comments on an agency's DEIS raise issues not adequately considered in that document, the CEQ regulations anticipate that an agency will respond by, *inter alia*, "supplemen[ting], improv[ing], or modify[ing] its analyses" and/or "explain[ing] why the comments do not warrant further agency response . . . ." *Id.* § 1503.4(a); *see also id.* § 1502.9(a), (b) (where DEIS' discussion is "so inadequate as to preclude meaningful analysis," the agency must revise it). "When an agency is evaluating reasonably foreseeable significant adverse effects . . . in an [EIS] and there is incomplete or unavailable information" that is "essential to a reasoned choice among alternatives," the agency "shall include the information" so long as "the overall costs of obtaining it are not exorbitant." *Id.* § 1502.22. Where "the means to obtain [the information] are not known," or the costs exorbitant, the EIS still must state that such information is incomplete or unavailable, explain "the relevance of the . . . information to evaluating reasonably foreseeable significant adverse impacts," summarize "existing credible scientific evidence which is relevant to evaluating" those impacts, and evaluate the impacts "based upon theoretical approaches or research methods generally accepted in the scientific community." *Id.* § 1502.22(b)(1)-(4).

**B. DOS Violated NEPA By Failing to Identify and Analyze Significant Pollution Impacts at the U.S. Refineries Keystone Was Designed to Supply**

DOS approved the Keystone project for the sole and express purpose of providing a new heavy crude oil supply to U.S. refineries. It did so in reliance on an FEIS that dismisses virtually all the actual environmental impacts of this refining as either too "speculative" to analyze or wholly irrelevant to DOS' decision to permit the construction of 1,400 miles' worth of Keystone pipeline in the United States. By ignoring the wealth of information linking Keystone to specific refining operations and associated pollution impacts in communities across the central United

States, and by conducting an incomplete analysis of Keystone's impacts at the single refinery it did acknowledge as connected to the project, DOS has violated NEPA's command to include in its FEIS all "reasonably foreseeable" indirect effects of its decision to approve the project and exposed the public to substantial unexamined impacts.

**1. At the time DOS issued its Presidential Permit to Keystone, it was reasonably foreseeable that the pipeline would supply nearly a half-dozen specific U.S. refineries not identified in the FEIS**

By the time DOS issued its January 2008 FEIS, a half-dozen existing U.S. refineries – including three owned and operated by Keystone partner and joint owner ConocoPhillips – had been identified publicly as either certain or reasonably likely to refine Western Canadian heavy crude oil from the Keystone pipeline. Most of these facilities also had announced that they were undertaking expansions and other improvements to increase their heavy crude refining capacity. With one exception – ConocoPhillips' Wood River refinery – the FEIS does not identify these facilities. PSF ¶ 30.

As noted above, Keystone is a joint venture of ConocoPhillips Company and TransCanada Corporation. PSF ¶ 2. The joint venture arose out of a November 2005 agreement under which ConocoPhillips committed to ship oil on the proposed pipeline and secured an option to purchase up to a fifty percent ownership interest in the Keystone project.<sup>11</sup> PSF ¶¶ 6, 75-76, 89. ConocoPhillips' annual report for 2005 – filed with the United States Securities and Exchange Commission ("SEC") several months before Keystone applied for a Presidential Permit – identifies ConocoPhillips as owner and operator of a dozen U.S. refineries including the Wood River refinery in Roxana, Illinois and refineries in Borger, Texas and Ponca City,

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<sup>11</sup> This agreement was described in the April 2006 Presidential Permit application and in subsequent SEC filings and statements by ConocoPhillips and TransCanada. PSF ¶¶ 6, 75-76, 89. In January 2008, TransCanada announced that ConocoPhillips had purchased a fifty percent ownership interest in Keystone. PSF ¶ 99.

Oklahoma. PSF ¶ 71. The report describes all three of these refineries as equipped to receive foreign crude oil via pipeline, and also notes that during 2005, the Borger refinery began construction on a new “coker” unit that would make the facility capable of processing heavy Canadian crude oil. PSF ¶¶ 72-74.

In January 2006, several months before Keystone applied for its Presidential Permit, TransCanada announced that it had “successful[ly]” concluded a fourth quarter of 2005 “Open Season” designed to sell capacity on the Keystone pipeline and “secured firm, long-term contracts totaling 340,000 barrels per day [and] with durations averaging 18 years.” PSF ¶ 77. In July 2006, shortly after Keystone submitted its Presidential Permit application, a consultant to TransCanada testified to the Illinois Commerce Commission about refineries likely to take oil from Keystone. PSF ¶ 78. The consultant noted that the Mainline, or Illinois, branch of the pipeline would deliver crude oil to both Patoka, Illinois, a “major hub for incoming and outgoing crude oil pipelines,” and to ConocoPhillips’ Wood River refinery. PSF ¶ 79. TransCanada’s consultant also noted that Keystone oil sent to Wood River could be piped to ConocoPhillips’ Ponca City, Oklahoma refinery, and that oil “can be delivered from Patoka to four other refineries in southern Illinois, Indiana, Ohio, [and] Kentucky.” PSF ¶¶ 79-81. TransCanada’s consultant testified that these refineries “have increased their use of Canadian heavy crude over the last decade,” PSF ¶ 82, and identified several that would be expanding to process even greater quantities of this oil. PSF ¶¶ 83-84. The consultant listed the Marathon refinery in Robinson, Illinois as a Keystone customer, and noted that Marathon was carrying out studies for an expansion that would enable it to process approximately 150,000 bpd of Canadian heavy crude oil. PSF ¶ 83.

TransCanada's consultant also told the Commission that several additional refineries "[i]n the mid-continent area which is supplied from Cushing" were "constructing or planning to add facilities to use more Canadian crude." PSF ¶ 84. In connection with this statement, the consultant noted that a refinery in Coffeyville, Kansas was "expanding and revamping its crude and vacuum units and making improvements at its coker" to accommodate processing of heavier crude oils. *Id.* The consultant also confirmed that "ConocoPhillips is adding a coker at its . . . Borger, Texas refinery to use Canadian heavy crude." *Id.*

In October 2006, the same month DOS announced its intent to prepare an EIS for the Keystone project, PSF ¶ 14, ConocoPhillips announced in SEC filings that it was "creating a long-term integrated North American heavy oil business" with EnCana Corporation, a Canadian company that produces and markets heavy crude oil derived from tar sands. PSF ¶ 88. The venture combines EnCana's interests in Western Canadian tar sands extraction and marketing with ConocoPhillips' interests in tar sands refining operations at Wood River, Illinois, and Borger, Texas. *Id.* ConocoPhillips' October 2006 SEC filing states that the venture would add 75,000 bpd of bitumen processing capability at Borger alone by approximately 2013, PSF ¶ 86, and their annual report states that the venture would increase total heavy-oil processing capacity across two refineries nearly tenfold from 2006 levels, to 550,000 bpd by 2015. PSF ¶ 92. That report also described the company's plans to use Keystone to supply Canadian crude to its refineries in the central U.S. region, which includes Wood River, Borger, and Ponca City. PSF ¶¶ 90-91. The company's 2007 report, filed with the SEC before DOS issued the ROD and Presidential Permit, states that the company expects to use Keystone to supply Canadian crude oil to Borger, as well as to Wood River. PSF ¶ 100.

During the summer and fall of 2007, while DOS was preparing and soliciting public comment on its Draft EIS for Keystone, PSF ¶¶ 14, 20, TransCanada announced that it had secured additional long-term contracts for the pipeline, and two additional U.S. refineries, both in Kansas, confirmed that they had become Keystone customers. PSF ¶¶ 94-98. In early July 2007, TransCanada announced that it had sold an additional 155,000 bpd of Keystone capacity in a second open season, for a total of 495,000 bpd of oil in contracts with an average length of 18 years. PSF ¶ 94. A month earlier, a Coffeyville, Kansas refinery owned by CVR Energy, Inc. (“CVR”) had contracted to purchase a ten-year supply of at least 25,000 barrels per day of Keystone oil for delivery via Cushing, Oklahoma. PSF ¶ 95. In an early September SEC filing confirming this contract, CVR reported that it had “identified and developed several significant capital projects since June 2005” in order to, *inter alia*, “expand[ ] refinery . . . capacity” and “improv[e] our ability to process heavier sour crude feedstock varieties.” PSF ¶ 96. CVR also stated that it was still “evaluating projects that will improve our ability to process heavy crude oil feedstocks.” PSF ¶ 97.

In its annual report for the 2007 fiscal year, which ended in August 2007, the National Cooperative Refining Association (“NCRA”) stated it had entered into a ten-year contract for “20,000 [barrels per day] of capacity on Keystone Pipeline” for its McPherson, Kansas refinery. PSF ¶ 98. NCRA also announced it had completed a study of the refinery’s “ability to process additional heavy Canadian crude oil” which “revealed that a project has merit,” and noted that the “additional access to Canadian heavy sour crude oil” from the Keystone contract would “support any potential expansion projects that may be spawned by” that study. *Id.*

**2. NEPA requires DOS to identify and analyze Keystone’s impacts at all refineries reasonably foreseeable to process Keystone oil**

Of the half-dozen refineries identified above as likely to process Keystone oil, the FEIS names only Wood River. PSF ¶ 30. The FEIS provides no reasoned explanation for DOS’ failure to look further, only conclusory and inconsistent assertions. In an appendix of responses to DEIS comments criticizing its failure to consider refining impacts, DOS repeatedly asserts that – notwithstanding the FEIS’ identification of the Wood River refinery expansion as a “connected action” to Keystone, PSF ¶ 40 – “[t]he scope of the EIS is necessarily limited to the scope of the proposed project and does not extend to the supply of crude oil to the transportation system or the operation of refineries that are supplied by it.” PSF ¶ 42. In response to other comments on refinery impacts, DOS offers this alternative, and contradictory, response:

The identity of other refineries where Keystone crude oil would be sent (from transportation hubs) varies depending on market conditions, availability of imports from other countries, weather conditions, etc. U.S. West Coast refineries would not be likely to receive Keystone crude oil, but any other refinery could be a long-term or short-term recipient, depending on decisions made by the shippers and/or the refinery. Some of these refineries may elect to install upgrades similar to those approved for Wood River but they are speculative at this time. The capacity of the Keystone Pipeline represents only about 2% of daily domestic oil consumption; thus the impacts associated with delivery of Keystone crude oil to refineries other than Wood River would be extremely difficult to quantify. *It is purely speculative to identify any refinery other than Wood River that is reasonably certain to process Keystone crude oil.*

PSF ¶ 41 (emphasis added). DOS includes a variation on this theme in a postscript to a brief discussion of the Wood River expansion:

Approximately 95,000 bpd of the proposed pipeline’s crude oil capacity would likely be shipped on a short-term spot-order basis to refineries throughout the country. The refineries receiving the oil would need to meet current permit requirements to receive and refine the new crude oil supply. If existing permits would not cover the refining of this new crude oil source or if refinery upgrades were required, permit upgrades would be required.

PSF ¶ 40. Nothing in these statements excuses DOS' failure to analyze Keystone's "reasonably foreseeable" impacts at all refineries the project would serve.

As a threshold matter, DOS misstates the law in suggesting that an impact must be "reasonably *certain*" before it must be analyzed under NEPA. The CEQ regulations plainly require DOS to identify and analyze all indirect impacts of the Keystone project that were "reasonably *foreseeable*," 40 C.F.R. § 1508.8(b) (emphasis added), not only those that are "reasonably *certain*." Among others, those indirect effects that stem from an "announced goal" or "anticipated consequence" of the project before the agency are "reasonably foreseeable," and cannot be dismissed as too "speculative" for NEPA review. *Friends of the Earth, Inc. v. U.S. Army Corps of Eng'rs*, 109 F. Supp. 2d 30, 41 (D.D.C. 2000) (discussing Corps' obligation to analyze, as an indirect effect of its issuance of permits for casino, impacts of secondary development the casino was likely to induce); *accord TOMAC v. Norton*, 240 F. Supp. 2d 45, 51-52 (D.D.C. 2003). Both Keystone's Presidential Permit application and DOS' decision documents recognize that Keystone is intended to provide a substantial new supply of Western Canadian heavy crude oil to U.S. refineries in both the Midwest and on the Gulf Coast through two branches and multiple hubs. *Supra*, at 6-7; PSF ¶¶ 4-5, 9, 32-33. DOS' decision documents also recognize that many U.S. refineries are expanding their capacity to process Canadian heavy crude, and identify ConocoPhillips – which owns and operates a number of refineries in Keystone's target supply regions – as an owner and proponent of Keystone. *Supra*, at 6-7; PSF ¶¶ 2, 32, 69, 71. Keystone's very design and purpose, as understood by DOS and described in the FEIS, thus made it "reasonably foreseeable" that the project's indirect effects would extend to multiple refineries, and put DOS on notice of its obligation to analyze those effects. *See Heckler*, 756 F.2d at 153-54, 156 (plaintiffs could challenge agency's complete failure to analyze

under NEPA the environmental impacts of bacteria dispersion the agency had recognized as a possible consequence of its action).

Second, to the extent DOS did not know what refineries (besides Wood River) were likely to process Keystone oil at the time Keystone applied for its Permit, or was uncertain about the scope of refining impacts generally, NEPA required DOS to gather this information before issuing the Permit. DOS must develop information on “reasonably foreseeable . . . impacts” wherever the cost of doing so would not be “exorbitant,” 40 C.F.R. § 1502.22(a). It must respond to commenters’ complaints that it has neglected those impacts in its DEIS by, *inter alia*, “supplement[ing], improv[ing], or modify[ing] its analyses.” *Id.* § 1503.4(a). Where supplementation would be prohibitively expensive, NEPA obliges an agency at least to explain, in detail, the basis for its view that an issue commenters contend was neglected does not warrant further review in an EIS. *Id.* § 1503.4(a)(5). *See also id.* § 1502.9(b); *Heckler*, 756 F.2d at 160 (“[O]ne of the functions of a NEPA statement is to indicate the extent to which environmental effects are essentially unknown” (citation and quotation marks omitted)).

It is beyond dispute that public commenters in this case, including NRDC and EPA, urged DOS to include a complete analysis of Keystone’s refining impacts at multiple sites. *Supra*, at 8-9; PSF ¶¶ 20-29. It is also apparent that DOS could have included such an analysis at less than “exorbitant” cost. 40 C.F.R. § 1502.22(a). Virtually all of the evidence on refinery impacts relied on in this brief was freely available through government and other public sources before DOS issued its FEIS and Presidential Permit, and most was available even before DOS issued its DEIS.<sup>12</sup> PSF ¶¶ 71, 75-78, 85, 89, 94-95, 98-100, 116-117. DOS presumably could

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<sup>12</sup> The information on specific pollution impacts of refining set forth at Parts C and D below and in the supporting expert declarations also is drawn from public sources of the kind readily available to DOS. PSF ¶ 116.

have requested much of this information from Keystone even before the relevant plans became public; as noted above, several of the refineries omitted from the FEIS are owned and operated by Keystone joint owner ConocoPhillips or will be processing Keystone oil pursuant to agreements with Keystone or one of Keystone's joint owners. *Supra*, at 16-19; PSF ¶¶ 71, 85-93, 95, 98, 100, 116. Under the circumstances, DOS' choice to confine its discussion to Wood River is indefensible.<sup>13</sup>

Third, even assuming the relevant threshold for analyzing indirect impacts was – as DOS erroneously suggests – reasonable *certainty*, the impacts described above meet this standard. At least three of the Keystone oil refineries omitted from the FEIS – Borger, Coffeyville, and McPherson – had entered into long-term agreements to process Keystone oil well before DOS issued its Permit. PSF ¶¶ 85-93, 95, 98. As DOS seems to have recognized both in identifying the Wood River expansion as “connected” to Keystone, PSF ¶ 35, and in defending its refusal to analyze impacts at a proposed new refinery it asserted was “not a Keystone customer,” PSF ¶ 44, NEPA obliged the agency to analyze impacts at those refineries that had made long-term commitments to purchase Keystone oil. By the time the FEIS issued, that standard would have encompassed Borger, Coffeyville, and McPherson, at the very least. DOS' passing suggestion that it did not have to analyze refinery impacts beyond Wood River because much of the Keystone oil not refined at that site “would likely be shipped on a short-term spot-order basis,”

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<sup>13</sup> DOS' abandonment of its assertion in the DEIS that “[i]t is not possible to predict” where besides Wood River, Keystone oil would be refined, *compare* PSF ¶ 19 (DEIS) *with* PSF ¶ 36 (FEIS), strongly suggests that DOS recognized that it *could* have gathered this information for the FEIS, but chose not to.

PSF ¶ 40 – even if it correctly states the law – does not square with the evidence.<sup>14</sup> The FEIS draws no principled distinction between these sites and Wood River. PSF ¶ 45.

Fourth and finally, any potential uncertainty about Keystone’s impacts at specific refinery sites only underscored DOS’ obligation to take a “hard look” at those impacts instead of dismissing them in two paragraphs of boilerplate in an FEIS appendix. *See Humane Soc’y v. Dept. of Commerce*, 432 F. Supp. 2d at 21 (finding agency’s “repeated generic statement that the effects are unknown” violated NEPA’s “hard look” standard (quoting *Nat’l Parks & Conservation Ass’n v. Babbitt*, 241 F.3d 722, 733 (9th Cir. 2001))). Evidence that an action’s “possible effects on the human environment are highly uncertain or involve unique or unknown risks” cuts for, not against, fuller NEPA review. 40 C.F.R. § 1508.27(b)(5); *see also Am. Bird*

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<sup>14</sup> Although the DEIS and FEIS are vague as to how Keystone oil will be allocated between Wood River and other refineries, the limited discussion they do provide suggests that DOS’ assertion that it would be “purely speculative” to consider refineries besides Wood River is based on outdated information. The DEIS and FEIS state that 340,000 bpd of Keystone oil had been sold in long-term contracts, and that the “majority” of Keystone oil would go to Wood River. PSF ¶¶ 17, 37. The 340,000 bpd figure listed in Keystone’s April 2006 Permit application corresponds to the volume of oil sold in long-term contracts during Keystone’s first open season in fall 2005. PSF ¶¶ 7, 77. That application stated Keystone’s expectation that unsold “excess capacity will be utilized by non-contract shippers,” but also noted Keystone’s plans to conduct a second Open Season to determine whether to construct the Cushing Extension. PSF ¶¶ 7-8.

As we explain above, TransCanada had sold an additional 155,000 bpd in long-term contracts, for a total of 495,000 bpd, by July 2007. PSF ¶ 94. Neither the DEIS nor the FEIS expressly accounts for this additional contract capacity. PSF ¶¶ 18, 38-39. The FEIS mentions 95,000 bpd in “short-term” capacity in addition to 340,000 bpd in contract capacity, for a total of 435,000 bpd. PSF ¶¶ 37, 40. That sum corresponds to the initial capacity of the Mainline (or Illinois branch) of the pipeline alone, as described in the FEIS. PSF ¶ 10. By the time DOS issued its Permit, Keystone had contracts with at least three refineries that appear more likely to be served through the Cushing Extension. PSF ¶ 71, 85-93, 95, 98, 100 (Borger, Texas; McPherson, Kansas; and Coffeyville, Kansas refineries); PSF ¶ 9 (pipeline route map).

Even assuming *arguendo* that DOS fairly analyzed the project as it was described in Keystone’s April 2006 application, DOS violated NEPA by failing to update its analysis in response to new information indicating that Keystone oil had been committed to additional refineries, including refineries served through Cushing. *See, e.g., Hammond v. Norton*, 370 F. Supp. 2d 226, 251-52 (D.D.C. 2005) (noting agency’s “duty to substantiate” information submitted by an applicant when there is good cause to believe that information is exaggerated or otherwise inaccurate).

*Conservancy, Inc. v. Fed. Commc'ns Comm'n*, 516 F.3d 1027, 1033-34 (D.C. Cir. 2008) (finding that “sharply divergent views” regarding the number of birds killed by FCC-approved communications towers “confirm[ed], rather than refut[ed],” agency’s NEPA obligation to analyze the towers’ actual effects on birds). Moreover, “the basic thrust of the agency’s responsibilities under NEPA is to predict the environmental effects of a proposed action before the action is taken and those effects fully known.” *Id.* at 1033 (quoting *Scientists’ Inst. for Pub. Info., Inc. v. Atomic Energy Comm’n*, 481 F.2d 1079, 1091-92 (D.C.Cir.1973)). “A precondition of certainty before initiating NEPA procedures would jeopardize NEPA’s purpose to ensure that agencies consider environmental impacts before they act rather than wait until it is too late.” *Am. Bird Conservancy*, 516 F.3d at 1033. By pretending it need not consider Keystone’s impacts at refineries other than Wood River until its granting of the Presidential Permit made those impacts “reasonably certain” or imminent, not just “reasonably foreseeable,” DOS turned NEPA on its head. *See Or. Natural Res. Council*, 490 U.S. at 371 (“NEPA ensures that the agency will not act on incomplete information [about a project’s impacts], only to regret its decision after it is too late to correct.”).

### **C. DOS Unlawfully Failed to Analyze the Reasonably Foreseeable and Significant Air and Water Pollution Impacts of Refining Keystone Oil**

DOS’ FEIS for Keystone provides virtually no analysis of the air and water pollution impacts of refining Keystone oil. With the exception of a single estimate of increased emissions of volatile organic compounds (“VOCs”) at Wood River, the FEIS does not indicate how much of any individual air or water pollutant would be released from the refining of Keystone oil anywhere in the United States. PSF ¶¶ 49, 53. The FEIS also fails to describe how any refining pollutants could affect human health and the natural environment in the quantities in which they are likely to be released, even as it indicates that the addition of Keystone oil refining capacity to

Wood River will result in increased emissions of some air and water pollutants (including VOCs, carbon monoxide (“CO”), sulfate, and chloride) at that site, and could have resulted increases in others (such as nitrogen oxides, sulfur dioxide, and particulates) had Wood River not acted to reduce its other emissions of these pollutants. PSF ¶¶ 48, 52, 55-56.

DOS suggests that it was not necessary to do a comprehensive, quantitative analysis of the pollution impacts of refining Keystone oil because both Wood River and the other, unnamed refineries likely to process Keystone oil will be held to the terms of either “existing” or “new” permits, depending on which was “required” under circumstances unspecified in the FEIS. PSF ¶¶ 40, 43. These suppositions are legally erroneous and factually unsupported.

With respect to the legal standard, DOS ignores the fact that NEPA mandates analysis of all potentially significant “environmental impacts” of federal action, without regard to the legality of the activities that generate those impacts under other environmental statutes.<sup>15</sup> NEPA “requires that agencies prepare an [EIS] detailing the possible environmental impacts of any proposed agency action that may significantly affect the environment.” *Deukmejian v. Nuclear Regulatory Comm’n*, 751 F.2d 1287, 1297-98 (D.C. Cir. 1984), *vacated on other grounds*, *San Luis Obispo Mothers for Peace v. Nuclear Regulatory Comm’n*, 760 F.2d 1320 (D.C. Cir. 1985), *and reheard en banc*, 789 F.2d 26 (D.C. Cir. 1986). That permitting requirements may cap the emissions of certain pollutants at certain facilities does not establish that the remaining pollution is insignificant for NEPA purposes, and thus does not excuse DOS’ obligation to take a “hard look” at the impacts of that pollution in its FEIS. *See City of Williams v. Dombeck*, 151

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<sup>15</sup> DOS’ supposition, carried to its logical conclusion, would suggest DOS was not obliged to do any NEPA review whatsoever of Keystone. DOS’ decision to draft an EIS for other parts of the project that also would be built and operated on U.S. soil (and thus also subject to U.S. law) underscores the fallacy of its argument that it could exclude U.S. refineries because other federal environmental laws will apply to them.

F. Supp. 2d 9, 21 (D.D.C. 2001) (holding FEIS' assertion that any impacts of potential groundwater pumping during project construction and emergencies would be "limited" by local zoning provisions "does not suffice as a 'hard look' at the amount of groundwater which is likely to be used . . . nor does it provide an analysis of the impact of the use of that water upon the environment." (citation omitted)); *TOMAC*, 240 F. Supp. 2d at 51-52 (agency must analyze air quality and other environmental impacts of "secondary growth stimulated by" project under consideration and explain its view of the relative significance of those impacts, not simply assert in its Environmental Assessment that these indirect effects of the project were "under the control" of local regulators).

As a factual matter, the FEIS simply does not describe the individual numeric limits that would in fact apply to any pollutant released at any Keystone refinery under the terms of those refineries' permits or other applicable environmental standards. PSF ¶¶ 50, 54. With respect to air pollution, the FEIS suggests that the refining of Keystone oil will result in "net emission decreases" of sulfur dioxide, nitrogen oxides, and particulates at Wood River "after accounting for credible contemporaneous emission increases and decreases," but does not set forth that accounting, or indicate whether other any refinery likely to process Keystone oil would take similar steps to "net" its new emissions of these pollutants. PSF ¶ 48. The FEIS also suggests that Keystone's effects on increased VOC emissions at Wood River will be "offset" through the purchase of credits, but does not explain whether this offset requirement – which according to the FEIS could be achieved through pollution reductions at other facilities in the St. Louis area – would shield the residents and natural environment around the Wood River refinery from increased pollution. *Id.* With respect to water pollution, the FEIS indicates that the refining of Keystone oil at Wood River will result in increased discharges of several water pollutants, for

which Wood River's permits will have to be adjusted, but does not explain how these permit adjustments will protect the public or the natural environment from the actual effects of the increased pollution. PSF ¶ 52. The FEIS also overlooks that some of the most significant pollution impacts of refining Western Canadian heavy crude – such as an increased risk of intermittent but potentially severe flaring, venting, and fugitive emissions that threaten public health in refinery communities – are either unaddressed or poorly controlled by permitting.<sup>16</sup> PSF ¶¶ 104-107. These serious local impacts must also be analyzed, not dismissed. *Fund for Animals v. Norton*, 281 F. Supp. 2d 209, 234 (D.D.C. 2003) (uncertainty regarding action's potential localized impacts on birds “a basis for a finding that there will be a significant impact” requiring NEPA analysis even where parties agreed action would have little or no effect on broader populations (internal quotation and citation omitted)).

Because it never quantifies, or even describes, the environmental effects of much of the air and water pollution it implies will be regulated into insignificance, the FEIS cannot support DOS' apparent conclusion that permits and other site-specific controls would eliminate any significant pollution associated with refining Keystone oil over the half-century or more the FEIS indicates the pipeline would operate. *Cf. City of Los Angeles v. Nat'l Highway Traffic Safety Admin.*, 912 F.2d 478, 487-89 (D.C. Cir. 1990), *overruled on other grounds by Fla. Audubon Soc'y v. Bentsen*, 94 F.3d 658 (D.C. Cir. 1996) (noting the agency's quantification of emissions increases and harm to human health in rejecting argument that agency had “simply decree[d] as insignificant” pollution that would occur under a fuel economy rule); *Public Citizen v. Nat'l Highway Traffic Safety Admin.*, 848 F.2d 256, 267-68 (D.C. Cir. 1988) (emphasizing that challenged fuel economy rule would be in place for a single year and that agency could revisit

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<sup>16</sup> The serious greenhouse gas impacts of refining Keystone oil, further discussed below, are another example of an impact not controlled by permitting. PSF ¶¶ 107-113, 115; *infra* Part D.

neglected impacts in later rulemakings, in declining to invalidate Environmental Assessment for failure to analyze “possible increases in emissions within the Clean Air Act limits,” and acknowledging that this “question is close” under NEPA). DOS’ suggestion that it could not perform this analysis without more information on where Keystone oil would be refined ignores that it is possible to estimate refining pollution from the volume of Western Canadian crude oil Keystone would carry and the chemical attributes of that oil, which affect how much pollution is released as it is refined. PSF ¶¶ 101-106, 115-117. Thus, even if the Court were to conclude it was not “reasonably foreseeable” for DOS to determine what refineries besides Wood River would process Keystone oil, or how much oil would be processed at any particular site, it was nonetheless “reasonably foreseeable” that the refining could generate substantial air and water pollution that DOS was obliged to analyze in its FEIS. *See* 42 U.S.C. § 4332(C); 40 C.F.R. § 1508.8(b); PSF ¶¶ 115-117.

The Eighth Circuit’s decision in *Mid States Coalition for Progress v. Surface Transportation Board*, is instructive on this point. 345 F.3d 520 (8th Cir. 2003). Plaintiffs in that case challenged an FEIS for a railroad expansion that was expected both to supplement coal supplies to existing power plants and to encourage the development of new plants whose specific locations and coal demands defendants asserted had not yet been identified. *Id.* at 548-50. The Court rejected defendants’ argument that particulate, mercury, carbon dioxide, and certain other pollution impacts from the combustion of coal the project would supply were properly excluded from the EIS as “speculation.” *Id.* The Court observed that the project was designed to provide a new and inexpensive supply of coal to both existing and potential new plants, and concluded that it was therefore “reasonably foreseeable – indeed, 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.” *Id.* at 549. It concluded that “the nature” of the project’s effects on air pollution were thus “far from speculative,” and that “[w]hen the *nature* of the effect is reasonably foreseeable [even though] its *extent* is not,” the effect must be analyzed under NEPA. *Id.*

The same is true here. DOS understood when it issued the Presidential Permit that Keystone would provide a “substantial” and “incremental” supply of approximately a half-million barrels per day of Western Canadian heavy crude to U.S. refineries. PSF ¶¶ 4-5, 7, 10, 37. It was therefore not only “reasonably foreseeable,” but virtually certain, that a very substantial volume of Western Canadian heavy crude oil will be refined, and significant levels of pollution released, wherever the oil is sent. PSF ¶¶ 101-115. Any remaining uncertainty about the volume of oil to be sent to any particular refinery goes to the extent rather than the nature of Keystone’s impacts on refinery pollution, and cannot excuse DOS’ failure to estimate the levels of various pollutants that will be released and to describe the threats these pollutants pose to human health and the natural environment. *Cf. Mayo Found. v. Surface Transp. Bd.*, 472 F.3d 545, 555-56 (8th Cir. 2006) (noting, on review of supplemental analysis prepared in response to *Mid-States*, that defendants had been able to provide numerical estimates of proposed rail project’s contributions to coal combustion and resulting sulfur dioxide, nitrogen oxide, carbon dioxide, mercury, carbon monoxide, and mercury pollution at the regional and national levels, even though localized effects on coal combustion and pollution remained too uncertain to analyze).

#### **D. DOS Unlawfully Ignored the Reasonably Foreseeable and Significant Greenhouse Gas Impacts of Refining Keystone Oil**

As noted above, the greenhouse gas impacts of refining Western Canadian heavy crude oil are substantial and likely to exceed those of lighter crude oil refining. PSF ¶¶ 108-113, 115.

Yet DOS' two-page discussion of greenhouse gas emissions and climate change does not even refer to refining impacts, let alone provide quantitative estimates of these impacts. PSF ¶¶ 60-61, 64. Although DOS offers no direct explanation for its utter failure to analyze the greenhouse gas impacts of refining the over half-million barrels per day of Western Canadian heavy crude oil Keystone would carry, it does observe that:

At the current time, no rules or regulations have been promulgated by any federal or state agency to define as "significant" any source of greenhouse gas emissions. There are also no currently applicable facility-specific emission limitations or caps for greenhouse gas emissions. Thus, there is no regulatory or guidance mechanism for determining standards of significance for greenhouse gas impacts, including General Conformity Thresholds.

According to the Association of Environmental Professionals, there are currently no published thresholds or recommended methodologies for determining the significance of a project's potential cumulative contribution to global climate change. Even very large individual projects do not generate sufficient greenhouse gas emissions to individually influence global climate change.

PSF ¶ 62 (citation omitted). DOS goes on to speculate that Keystone's contributions to the problem of climate change would be "incremental" and "is likely to be relatively small compared to the nationwide production of greenhouse gases on an annual basis." PSF ¶ 63.

DOS' statements neither constitute nor excuse the requisite "hard look" at Keystone's greenhouse gas impacts, for several reasons. First, DOS' apparent view that "[e]ven very large individual projects do not generate sufficient greenhouse gas emissions" to trigger NEPA analysis is mistaken. PSF ¶ 62. The Supreme Court has made clear in the context of the Clean Air Act that greenhouse gas impacts of individual federal actions can be highly significant even where they account for only a small fraction of national or global emissions. *Massachusetts*, 127 S. Ct. at 1457-58. And NEPA requires DOS to analyze all impacts that "may significantly affect the environment." *Deukmejian v. Nuclear Regulatory Comm'n*, 751 F.2d at 1297-98 (emphasis added), not just those whose significance is settled. DOS' unsupported assertion that Keystone's

emissions would be “relatively small compared to” national emissions – even if true – thus cannot excuse a good-faith effort to estimate those emissions and consider how they would contribute to the problem of climate change. Just as for other pollution impacts, NEPA demands analysis, not labels. *See also Heckler*, 756 F.2d at 153-54 (agency’s failure to discuss potential impacts from dispersion of genetically altered bacteria, other than to comment that such dispersion was possible and would likely involve a “very small” number of cells with limited chances of survival, amounted to a “complete failure to address a major environmental concern” under NEPA); *Sierra Club v. Mainella*, 459 F. Supp. 2d 76, 106-07 (D.D.C. 2006) (finding “no basis,” in agency’s NEPA analysis for issuance of oil and gas drilling permits, for “conclusion that even a ‘minor’ impact is not significant . . . because there are no determinate criteria offered for distinguishing a ‘minor’ impact from a ‘moderate’ or ‘major’ impact other than [the agency’s] conclusory say-so”).

Second, and closely related, the fact that greenhouse gas emissions from refineries are not subject to the same regulatory constraints as other air pollutants does not excuse DOS from analyzing them in its FEIS. As we have explained, because NEPA is broadly concerned with impacts to the human environment, DOS must include in its FEIS all project-related pollution of potential environmental significance, however that pollution is addressed (or not) under other statutory regimes. *See supra* at 26-28. DOS’ suggestion that it need not analyze emissions unregulated under other statutes is all the more arbitrary given its erroneous contention – discussed at Part C, *supra* – that it also need not analyze the emissions of *regulated* pollutants associated with refining Keystone oil absent some definitive proof that those emissions will illegally exceed permit limits. DOS cannot have it both ways.

Third, it was possible for DOS to estimate Keystone's greenhouse gas impacts at refinery sites. For example, DOS could have estimated the energy demands associated with various equipment and methods used to refine Western Canadian heavy crude at Wood River and other refineries slated to receive oil from Keystone, and the greenhouse gas emissions from burning fossil fuels to power that equipment. PSF ¶¶ 108-110, 116-117. Even if complete refinery-specific information was not available, DOS could have completed (as for other pollution) a preliminary analysis based on the pipeline's capacity and chemical characteristics of Western Canadian heavy crude oil that influence how much energy is needed to refine it. *Id.* Just as the permitting agency in *Mid-States* could not approve a 900-mile coal railroad project "without first examining" increases in carbon dioxide and other air pollution that could "occur as a result of the reasonably foreseeable increase in coal consumption" at plants the railroad would serve, 345 F.3d at 550, DOS cannot approve a 1,400-mile crude oil pipeline project designed to create an "incremental" supply of oil to U.S. refineries without understanding what will happen to greenhouse gas emissions at those refineries. The Court should order this analysis.

**E. DOS Entirely Failed to Consider the Significant Cumulative Pollution Impacts Associated with Refining Keystone Oil**

DOS also violated its obligation to address refining impacts in a "full and fair discussion" of the cumulative impacts that "result[ ] from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions . . . ." 40 C.F.R. §§ 1502.1, 1508.7; *see also id.* § 1508.25(a)(2), (c). The FEIS' chapter on cumulative impacts does not discuss, or provide numeric estimates of, pollution at any refinery likely to process Keystone oil before it concludes that "[t]he majority of cumulative impacts associated with construction and operation

of the Keystone project would be localized, temporary, and minor.”<sup>17</sup> PSF ¶¶ 64-65; see also PSF ¶¶ 58-63. With respect to refineries, the FEIS thus omits even the threshold elements of a “meaningful cumulative impacts analysis” discussion: “(1) the area in which the effects of the proposed project will be felt” and “(2) the impacts that are expected in that area from the proposed project . . . .”<sup>18</sup> *Grand Canyon Trust v. Fed. Aviation Admin.*, 290 F.3d 339, 345 (D.C. Cir. 2002). The FEIS also fails to place refining pollution in the context of other pollution that may already pose serious threats human health and the natural environment around refineries likely to process Keystone oil. PSF ¶¶ 58-64; *Grand Canyon Trust*, 290 F.3d at 345 (identifying other required elements of cumulative impacts analysis as “(3) other actions – past, present, and proposed, and reasonably foreseeable – that have had or are expected to have impacts in the same area; (4) the impacts or expected impacts from these other actions; and (5) the overall impact that can be expected if the individual impacts are allowed to accumulate”).

DOS does not explain its failure to address the cumulative impacts of refining pollution, although it does assert that with respect to greenhouse gas pollution and climate change in particular, Keystone’s contribution to the problem is necessarily “incremental” and “relatively

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<sup>17</sup> The chapter thus does not account for even the Wood River impacts DOS identifies elsewhere in its FEIS as related to Keystone. *See supra* at 19-20. Nor do any of the brief discussions of Wood River that appear in other parts of the FEIS refer, even in passing, to the cumulative impacts of that or other refining operations. PSF ¶ 57.

<sup>18</sup> These primary requirements are insufficient in themselves to provide an adequate review of cumulative impacts. *Cf. Grand Canyon Trust*, 290 F.3d at 345-46 (finding analysis that estimated that the proposed action would increase relevant flight activity near a park by approximately two percent, but did not explain “whether . . . a 2% increase, in addition to other noise impacts on the Park, will ‘significantly affect’ the quality of the human environment in the Park” in sufficient to address cumulative impacts); *Ctr. for Biological Diversity v. Nat’l Highway Traffic Safety Admin.*, 538 F.3d 1172, 1216, 1223-25 (9th Cir. 2008) (invalidating analysis that did not explain its conclusion that an estimated percentage change in cumulative greenhouse gas emissions was environmentally insignificant). Because DOS has failed to satisfy these threshold requirements, however, the Court need look no further.

small.” PSF ¶ 63. DOS’ suggestion that it need not address effects that – had it actually quantified them – might have represented a relatively small fraction of a broader pollution problem ignores that a cumulative effects analysis must address “individually minor but collectively significant actions taking place over a period of time.”<sup>19</sup> 40 C.F.R. § 1508.7; *see also Grand Canyon Trust*, 290 F.3d at 345 (cumulative impact analysis must address “the overall impact that can be expected if the individual impacts are allowed to accumulate”); *Ctr. for Biological Diversity*, 538 F.3d at 1217 (noting obligation to analyze “individually minor” impacts that may be “collectively significant,” and characterizing discussions of the magnitude of a project’s greenhouse gas impacts, and its contributions to climate change trends, as “precisely the kind of cumulative impacts analysis that NEPA requires agencies to conduct”).

DOS’ unsupported speculation that pollution from the refining of Keystone oil – if analyzed – would appear “relatively small compared to” national pollution does not excuse it from doing the math and explaining what the numbers mean for the environment.<sup>20</sup> *See NRDC v. Hodel*, 865 F.2d 288, 298-99 (D.C. Cir. 1988) (agency violated NEPA by addressing cumulative impacts in “conclusory remarks, statements that do not equip a decisionmaker to make an informed decision . . .”); *Mid States*, 345 F.3d at 550 (agency violated NEPA by failing to estimate carbon dioxide and other pollutant emissions likely to result from the burning of coal to be transported by a proposed railroad); *Ctr. for Biological Diversity*, 538 F.3d at 1216, 1223-

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<sup>19</sup> DOS’ failure to analyze greenhouse gas impacts is thus in direct tension with its acknowledgment that Keystone would contribute to “cumulative effects of greenhouse gases [that] have been determined to have led to climate change on a global scale, which is considered to be a significant cumulative effect.” PSF ¶ 62.

<sup>20</sup> Preliminary information collected by NRDC suggests that had DOS performed an analysis of greenhouse gas impacts, for example, it might have found that DOS’ approval of Keystone could generate incremental greenhouse gas emissions from refineries on the order of 1.5 to over 5 million metric tons per year. PSF ¶ 115.

25 (agency violated NEPA by failing to analyze actual environmental effects of greenhouse gas emissions agency had estimated would result under alternative fuel economy rules). The Court should order this analysis.

**F. DOS Entirely Failed to Consider Opportunities to Mitigate the Significant Pollution Impacts of Refining Keystone Oil**

In failing to address the indirect and cumulative pollution impacts of refining the oil Keystone would carry to U.S. refineries, DOS also violated its NEPA duty to include in the FEIS “detailed” and “reasonably complete” discussion of opportunities to mitigate “any adverse environmental effects” of Keystone. *Robertson*, 490 U.S. at 351-52 (quoting 42 U.S.C. § 4332(2)(C)(ii)); *see also* 40 C.F.R. §§ 1502.16(h), 1502.14(f). The mitigation measures identified in the FEIS concern the construction and operation of the pipeline and its support facilities, not the refineries the pipeline will serve. PSF ¶ 67. The FEIS thus entirely fails to address reasonable means of reducing Keystone’s significant pollution impacts at refinery sites, such as reducing the total volume of oil supplied through the pipeline for refining in the United States, or adding pollution controls or making other operational adjustments at refineries likely to process Keystone oil in order to reduce the pollution released with each barrel refined.<sup>21</sup> This information, had DOS included it, could have informed the permitting measures DOS presumes – without analysis – will minimize impacts at those sites. *See supra* at 25-28. Although NEPA does not require agencies to adopt any particular measures, mitigation must “be discussed in sufficient detail to ensure that environmental consequences have been fairly evaluated . . . .”

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<sup>21</sup> The FEIS’ passing acknowledgment of a “[n]o [a]ction” alternative that would eliminate the impacts directly associated with the Keystone project, PSF ¶ 66, cannot substitute for an analysis of alternatives that would lessen the impacts of the refining that will occur if the project is in fact allowed to proceed. *See Hodel*, 865 F.2d at 296 n.4 (noting an agency’s obligation to “consider partial as well as complete alternatives,” including those that would “reduce the scope of the [proposed program] and thus alleviate a significant portion of the environmental harm” associated with the proposal (quoting *NRDC v. Morton*, 458 F.2d at 836)).

*Robertson*, 490 U.S. at 352. Otherwise, “neither the agency nor other interested groups and individuals can properly evaluate the severity of the adverse effects” of a proposed project or decide which of those effects could be “fully remedied” at reasonable cost even if the project went forward. *Id.* DOS’ failure to consider how Keystone’s pollution *could* be controlled at the individual refinery level before assuming that it *would* be controlled further compromised the FEIS. *Id.*

## **II. Because DOS Approved the Keystone Pipeline Without Informing Itself and the Public About the Impacts of Refining Keystone Oil, This Court Should Vacate DOS’ Presidential Permit and Enjoin Construction**

By omitting virtually all of Keystone’s refining impacts from its FEIS, DOS deprived itself and the American public of a complete and adequate understanding of the project’s potential effects on our nation’s health and environment. The appropriate response is to order DOS to rescind the Presidential Permit and to enjoin construction until DOS has in fact undertaken an adequate NEPA review, lest “the momentum of additional work and investment . . . serve further to bind” DOS to its uninformed decision. *Realty Income Trust v. Eckerd*, 564 F.2d 447, 457 (D.C. Cir. 1977) (also noting “the presumption . . . that an action proceeding in violation of NEPA should be enjoined . . .”); *see also Humane Soc’y v. Johanns*, 520 F. Supp. 2d at 37 (observing that vacatur of “action promulgated in violation of NEPA is the standard remedy” in the D.C. Circuit (citing *Am. Bioscience, Inc. v. Thompson*, 269 F.3d 1077, 1084 (D.C. Cir. 2001))).

NRDC is entitled to a permanent injunction if (1) it has suffered an irreparable injury; (2) “remedies available at law, such as monetary damages, are inadequate to compensate for that injury”; (3) “considering the balance of hardships between the plaintiff and defendant, a remedy in equity is warranted”; and (4) “the public interest would not be disserved by a permanent

injunction.” *eBay, Inc. v. MercExchange, LLC*, 547 U.S. 388, 391 (2006) (citing *Weinberger v. Romero-Barcelo*, 456 U.S. 305, 311-13 (1982), and *Amoco Prod. Co. v. Gambell*, 480 U.S. 531, 542 (1987)). This test is easily satisfied.

With respect to the first two factors, “[e]nvironmental injury, by its nature, can seldom be adequately remedied by money damages and is often permanent or at least of long duration, *i.e.*, irreparable.” *Amoco*, 480 U.S. at 545. Where this injury is sufficiently likely, “the balance of harms will usually favor the issuance of an injunction to protect the environment.” *Id.* Under NEPA, once a violation of law is established, “the lack of an adequate environmental consideration looms as a serious, immediate, and irreparable injury. Although the *balancing* of this harm against other factors is necessarily particularized, the injury itself is clear.” *Heckler*, 756 F.2d at 157 (citations omitted, emphasis in original).

The procedural injury in this case already has occurred and is ongoing, and the resultant unconsidered injuries to the human environment are imminent. Refineries across the central United States already are undergoing or considering expansions to accommodate Western Canadian heavy crude from Keystone. PSF ¶¶ 13, 69, 72, 74, 83-86, 90-92, 96-98, 100. The FEIS indicates that oil could be flowing to refineries served through Keystone’s Mainline (Illinois) branch as early as next fall. PSF ¶ 10. Because DOS failed to prepare any “detailed statement” on the impacts of refining this oil before issuing its Permit, 42 U.S.C. § 4332(2)(C), NRDC’s members have no concrete understanding of how the refining will affect their health and natural environment. Even if they are ultimately able to gather through other channels some of the information DOS should have included in its FEIS, it will come too late to satisfy

Congress' intent that adequate environmental review "serve the public and the agency *before* major federal actions occur."<sup>22</sup> *Heckler*, 756 F.2d at 157 (citations omitted).

The same concerns that underlie NRDC's members' injuries illustrate why the third and fourth factors of the test favor an injunction. The preliminary information discussed in this brief indicates both that at least five specific U.S. refineries besides Wood River are likely to receive Keystone oil, and that the refining of Keystone oil will result in substantial air and water pollution – including greenhouse gas pollution – wherever it occurs. DOS' FEIS for Keystone is virtually silent on these issues, and thus cannot satisfy Congress' intent that the EIS include "all the information relevant to a determination whether to abandon the project or to alter it." *Realty Income Trust*, 564 F.2d at 456 (internal quotations and citation omitted). DOS' decision to issue a Presidential Permit to Keystone without a full analysis of refining impacts does not diminish DOS' or the public's interest in having those impacts analyzed now; as the Supreme Court has emphasized, "[i]t would be incongruous with . . . [NEPA's] manifest concern with preventing uninformed action, for the blinders to adverse environmental effects, once unequivocally removed, to be restored prior to the completion of agency action simply because the relevant proposal has received initial approval." *Or. Natural Res. Council*, 490 U.S. at 371; *see also Realty Income Trust*, 564 F.2d at 456 (noting that halting all activity on an ongoing project –

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<sup>22</sup> As DOS conceded in preparing an EIS that discusses impacts along the pipeline's nearly 1,400-mile U.S. right of way, PSF ¶ 10, the relevant action for NEPA purposes is not limited to the border crossing. PSF ¶ 33. Rather, NEPA obliges DOS to analyze the direct, indirect, and cumulative impacts of the activity its Permit has made possible. *See infra* at 6 n.5 (citing PSF ¶ 5 (border crossing "integral part" of larger project)). Until DOS has in fact considered all of these impacts, Keystone must be enjoined in its entirety. *See Heckler*, 756 F.2d at 155 ("[I]t is well established that judicial power to enforce NEPA extends to private parties where non-federal action cannot lawfully begin or continue without the prior approval of a federal agency . . . [W]ere such non-federal entities to act without the necessary federal approval, they obviously would be acting unlawfully and be subject to injunction." (quotation marks and citation omitted)).

including initial activity that may not itself trigger unconsidered impacts – is often the only way to “preserve for the agency the widest freedom of choice when it reconsiders its action [after adequate NEPA review]”).

The environmental impacts of refining over a half-million daily barrels of Western Canadian heavy crude oil in the United States for the indefinite future are – however geographically distributed – unquestionably significant. Whatever costs may result from temporarily enjoining Keystone’s construction until DOS addresses these neglected refining impacts are thus far outweighed by the benefits of promoting the rule of law and ensuring that DOS, other government entities, and the public understand the project’s true environmental consequences before they are upon us. *Realty Income Trust*, 564 F.2d at 456 (noting that even “substantial additional costs which would be caused by court-ordered delay may well be justified by the compelling public interest in the enforcement of NEPA” (citation and quotation marks omitted)); *see also Fund for Animals v. Clark*, 27 F. Supp. 2d 8 (D.D.C. 1998) (NEPA injunction promotes the public’s interests in “having the federal defendants address the public’s expressed environmental concerns” and “meticulous compliance with the law by public officials” (quoting *Fund for Animals, Inc. v. Espy*, 814 F. Supp. 142, 152 (D.D.C. 1993))).

### CONCLUSION

NEPA’s EIS requirement is “an action-forcing device to insure that the policies and goals defined in [NEPA] are infused into the ongoing programs and actions of the Federal Government.” *Public Citizen*, 541 U.S. at 769 (quoting 40 C.F.R. § 1502.1). Although nothing in NEPA requires DOS to abandon Keystone because of its significant environmental effects, “[t]he idea behind NEPA is that if the agency’s eyes are open to the environmental consequences of its actions . . . it may be persuaded to alter what it proposed.” *Lemon*, 514 F.3d at 1315; *see*

*also NRDC v. Kempthorne*, 525 F. Supp. 2d 115, 123 (D.D.C. 2007) (“NEPA does not constrain an agency from deciding that certain values outweigh the environmental costs *as long as these costs are identified and evaluated.*” (emphasis added)). DOS does not have to change its course on Keystone, but NEPA does not allow it to steer with its eyes closed. Because DOS has failed to consider the actual impacts of the refining activity that prompted it to approve Keystone and that would account for some of the project’s gravest impacts on our nation’s environment, this Court should grant summary judgment to NRDC, set aside DOS’ Presidential Permit, and enjoin Keystone’s construction pending adequate NEPA review.

Dated: San Francisco, California  
October 17, 2008

Respectfully submitted,

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Council, Inc.

UNITED STATES DISTRICT COURT  
FOR THE DISTRICT OF COLUMBIA

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NATURAL RESOURCES DEFENSE	)	
COUNCIL, INC.,	)	
	)	
Plaintiff	)	Civil Action No. 08-1363 (RJL)
	)	
-v.-	)	
	)	
UNITED STATES DEPARTMENT OF	)	
STATE, et al.,	)	
	)	
Defendants	)	
	)	
TRANSCANADA KEYSTONE	)	
PIPELINE, LP,	)	
	)	
Defendant-Intervenor	)	

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**PLAINTIFF NRDC'S SEPARATE STATEMENT OF UNDISPUTED FACTS  
IN SUPPORT OF MOTION FOR SUMMARY JUDGMENT**

Plaintiff Natural Resources Defense Council, Inc. (“NRDC”) respectfully submits this Separate Statement of Undisputed Facts in support of its Motion for Summary Judgment. This statement is based on the concurrently filed Declarations of Galen W. Hartman (“Hartman Decl.”), Greg Karras (“Karras Decl.”), Selena K. Kyle (“Kyle Decl.”), Gina Trujillo (“Trujillo Decl.”), Zora Millard (“Millard Decl.”), Melanie Nakagawa (“Nakagawa Decl.”), Dwite Sharp (“Sharp Decl.”), and Jan Tervydis (“Tervydis Decl.”), and accompanying exhibits.

Pursuant to Federal Rule of Civil Procedure 56 and this Court’s Local Civil Rules 7(a) and (h),<sup>1</sup> there is no genuine issue as to the following facts:

<b>Fact</b>	<b>Supporting Evidence</b>
1. Defendant Secretary of State Condoleezza Rice has delegated her authority to issue Presidential Permits pursuant to Executive Order 13,337 to Defendant Reuben Jeffrey III, Under Secretary of State for Economic, Energy and Agricultural Affairs.	Kyle Decl., Ex. F, at 23; Nakagawa Decl., Ex. B, at 2.
2. The Keystone pipeline will be constructed and operated by TransCanada Keystone Pipeline, LP (“Keystone”), a partnership between ConocoPhillips Company, a U.S. company, and TransCanada Corporation, a Canadian company.	Kyle Decl., Ex. F, at 2.
3. Keystone applied for a Presidential Permit in April 2006.	Kyle Decl., Ex. F, at 2, 3 & n.1; Nakagawa Decl., Ex. A, cover letter, at 1.
4. Keystone’s April 2006 Presidential Permit application stated that	Nakagawa Decl.,

<sup>1</sup> No administrative record has been compiled for this case, and some of the evidence cited in this Statement (although properly before the Court pursuant to the established exception for extra-record materials that identify impacts an agency failed to consider under NEPA) likely would not appear in such a record if compiled. *See* NRDC Mot. for Summary Judgment and Mem. in Supp. at 3 n.1; *see generally* NRDC Mot. for Leave to Submit Extra-Record Evidence. For these reasons, this Statement cites directly to the evidence, not to any administrative record. Citations to extra-record evidence are indicated with an asterisk in the “Supporting Evidence” column.

- “Construction of the Keystone Pipeline Project, including the proposed border crossing facilities, will serve the national interest of the United States by providing refineries and markets with a substantial and reliable incremental supply of Canadian crude oil to meet growing U.S. demand for petroleum products.”
- Ex. A, Application, at 6.
5. Keystone’s April 2006 Presidential Permit application stated that “Keystone is requesting a Presidential Permit solely with respect to the limited border-crossing segment of its international pipeline project” and that “[t]he border crossing facilities are intended to transport crude oil as an integral part of the proposed Keystone Pipeline Project, an international pipeline project, which is designed to transport incremental crude oil production from the Western Canadian Sedimentary Basin to markets in the United States.”
 

Nakagawa Decl., Ex. A, Application, at 4.
  6. Keystone’s April 2006 Presidential Permit application states that Keystone is a “wholly-owned subsidiary of TransCanada Pipelines Limited,” but also notes that TransCanada has “entered into a Memorandum of Understanding that commits ConocoPhillips Company to ship crude oil on the proposed Keystone Pipeline Project and gives [ConocoPhillips Pipe Line Company] the right to acquire up to a fifty percent ownership interest in the pipeline, subject to certain conditions being met,” and that “Keystone expects the final corporate form of the project entity to be determined by September, 2006.”
 

Nakagawa Decl., Ex. A, Application, at 2, 3.
  7. An Environmental Report submitted with Keystone’s April 2006 Presidential Permit application stated, in part:
 

Keystone conducted a binding Open Season in December 2005 to provide shippers an opportunity to participate in the Keystone Pipeline Project by entering into contractual commitments for pipeline capacity. Binding contracts for 340,000 bpd were received, which Keystone has deemed sufficient to enable it to proceed with regulatory applications and, pending successful regulatory and environmental approvals, with construction of the pipeline. These binding commitments demonstrate the need for incremental pipeline capacity and access to Canadian crude supplies and represent a clear endorsement of the Keystone Pipeline Project. Keystone expects that the remainder of the excess capacity will be utilized by non-contract shippers at the tariff rate approved by the Federal Regulatory Energy Commission (FERC).

Nakagawa Decl., Ex. A, at 1; Chapter 1 (“Introduction”), at 1-6.
  8. The Environmental Report submitted with Keystone’s April 2006 Presidential Permit application also mentioned “an additional binding
 

Nakagawa Decl., Ex. A, cover

- Open Season to be held later in 2006,” and indicated that Keystone would use the “results” of this second Open Season to determine whether to construct a proposed pipeline extension to Cushing, Oklahoma. The Report also stated that potential shippers “have expressed strong interest in a proposed pipeline extension to the Cushing market area.”
9. The proposed Keystone pipeline route crosses the international border into the United States in Cavalier County, North Dakota and travels south through South Dakota, Nebraska, and Kansas. The pipeline then branches into a “Mainline” that cuts east through Missouri to Illinois and a “Cushing extension” that continues south through Kansas to Oklahoma. The Mainline passes through Wood River, Illinois and terminates in Patoka, Illinois.
10. At maximum pumping capacity, the Keystone project (including the Mainline and Cushing extension) would carry 591,000 barrels per day (“bpd”) of Western Canadian heavy crude oil from the Western Canadian Sedimentary Basin, including oil extracted from oilsands in that Basin, through over 2,000 miles of pipe. Nearly 1,400 miles of the pipeline would lie within the United States. The FEIS describes the initial capacity of the Mainline as 435,000 bpd, and estimates the Mainline will be “in-service” in November 2009.
11. The Western Canadian heavy crude oil the Keystone pipeline would carry is expected to include oil derived from oil sands, otherwise known as “tar sands.” The “tar” in tar sands is also known as bitumen.
12. According to Defendant United States Department of State’s (“DOS”) Final Environmental Impact Statement for the Keystone project, the “capacity of the Keystone Pipeline represents . . . about 2% of daily domestic oil consumption” in the United States.
13. Several oil refineries in the central United States are expanding their refining capacity, and others converting existing capacity from lighter crude oil refining, to accommodate the processing of Canadian heavy crude oil (including oil derived from tar sands) that would be delivered by the Keystone pipeline.
14. DOS issued a Notice of Intent to prepare an Environmental Impact Statement (“EIS”) for the Keystone project in October 2006; a Draft
- letter, at 1;  
Chapter 1  
 (“Introduction”),  
at 1-2, 1-6; *see also id.* at 1-1,  
Application at 4-  
5.
- Kyle Decl., Ex.  
F at 4-5; Ex. D  
at 1-1 (map).
- Kyle Decl., Ex.  
F, at 4; Ex. A, at  
ES-2 to ES-4, 2-  
1; Ex. D, at 1-1.
- Karras Decl.\*  
¶¶ 10, 12;  
Hartman Decl.\*  
¶ 8.
- Kyle Decl., Ex.  
B, Table 1, at 8.
- Hartman Decl.\*  
¶ 12; Karras  
Decl.\* ¶¶ 9, 29-  
35; *see also*  
Kyle Decl., Ex.  
L\*, at cover, 2,  
14-15.
- Kyle Decl., Ex.  
A, at cover, ES-

- Environmental Impact Statement (“DEIS”) for the project in August 2007; a Final Environmental Impact Statement (“FEIS”) on January 11, 2008; and a Record of Decision (“ROD”) on February 28, 2008. 5, ES-7; Kyle Decl., Ex. F, at 24.
15. On March 11, 2008, DOS granted a Presidential Permit to Keystone. Nakagawa, Ex. B, at cover, final page.
16. The Wood River refinery is the only refinery specifically identified in the DEIS as likely to process Keystone oil. Kyle Decl., Ex. E.
17. The DEIS’ discussion of Wood River states, in part: “Currently, shippers have contracted with Keystone to ship 340,000 bpd of crude oil on the proposed pipeline. The majority of that volume will go to the Wood River Refinery. To process the growing volume of Canadian crude, the refinery is slated to undergo a Coker and Refinery Expansion (CORE) project, which will increase both total crude processing ability and the ability of the facility to handle a higher percentage of heavier crude.” Kyle Decl., Ex. E, at 2-11.
18. The DEIS does not discuss the existence of contracts or other long-term commitments for the shipment of any Keystone capacity in excess of 340,000 bpd. Kyle Decl., Ex. E.
19. The DEIS’ discussion of Wood River also states that “[a]ny other refinery upgrades due to the Keystone Project would be speculative at this time. . . . It is not possible to predict where the oil would be sent and what, if any, refinery upgrades would be required. It is likely that the oil shipped by the Keystone pipeline would be used to a limited degree as a replacement for other more expensive crude oil.” Kyle Decl., Ex. E, at 2-11.
20. On September 24, 2007, NRDC submitted timely comments on the DEIS in which it urged DOS to investigate and analyze Keystone’s impacts at refineries. Nakagawa Decl., Ex. C, at 1, 3-5, 9-12.
21. NRDC’s DEIS comments stated in part that the DEIS “does not consider the environmental impacts of refinery expansions to refine the expected amount of tar sands oil that will be imported into the United States. The Keystone pipeline proposal already is catalyzing expansion at several refineries in the U.S. and as a consequence will cause additional local pollution in the United States. However, the linkage between these proposed refinery expansions and the Keystone pipeline is not addressed in the draft EIS as part of its cumulative impacts assessment.” The comments also stated that “proposals to upgrade existing refineries in the United States are already underway Nakagawa Decl., Ex. C, at 3-5; *see also* Kyle Decl., Ex. B, Table 2, at 18-20 (summarizing NRDC DEIS comments).

to increase their capacity for refining heavier crude oils such as those derived from tar sands”; that “[t]here is a noticeable twinning of proposals to increase pipeline capacity to bring in more tar sands oil into the United States and proposals to upgrade and expand refineries in areas serviced by the pipeline”; that “[p]roposals to upgrade and expand refineries in the Midwest are already underway” and that “[s]imilar expansions can be expected in other areas along the pipeline corridor and particularly in those areas identified as recipients of the pipeline’s products, such as the Gulf Coast.”

22. Other DEIS commenters also noted that multiple U.S. refineries were moving toward the importation and refining of tar sands, and urged DOS to analyze, in its FEIS, the impacts of this trend. Kyle Decl., Ex. B, Table 2, at 20.
23. NRDC’s DEIS comments asked DOS, in its FEIS, to “address the potential environmental impacts in the areas serviced by the pipeline . . . .” The comments emphasized DOS’ obligation to explore “linkages” to refineries in the Midwest and on the Gulf Coast of the United States, noting that both regions had been identified as “recipients” of Keystone oil. NRDC provided, as one illustration of a relevant tar sands expansion proposal, ConocoPhillips’ “plans to increase bitumen use to 200,000 bbl/d by 2009 through a joint venture with EnCana” involving the Wood River refinery. Nakagawa Decl., Ex. C, at 1, 4-5.
24. The U.S. Environmental Protection Agency (“EPA”) also submitted comments urging DOS to consider impacts at refineries besides Wood River. EPA’s comments stated, in part: Kyle Decl., Ex. B, Table 2, at 24.
- The DEIS does not identify the other refineries in the Midwest that would receive the remaining Keystone Pipeline crude oil for processing. We recommend that DOS identify in the Keystone FEIS:(1) the other refineries that may ultimately receive and process the Keystone Pipeline crude oil, (2) the existing and/or new pipeline route/s that could be used to deliver Keystone crude oil to these refineries, (3) whether or not these refineries may need to be upgraded, and (4) any impacts associated with these pipeline routes and/or refineries and associated facilities.
25. Other DEIS commenters also urged DOS to identify and analyze Keystone’s connections to and impacts at U.S. refineries other than Wood River. Kyle Decl., Ex. B, Table 2 at 18, 20, 24; *see also id.*, Table 1, at 5, 6, 11, 12; Table 2 at 2, 3, 15, 37,

- 39, 43.
26. NRDC's DEIS comments urged DOS to analyze, in its FEIS, the air and water pollution and associated public health impacts of refining tar sands from Keystone. The comments stated, in part: "Refining heavy sour (sulfurous) crude oil extracted from tar sands, which requires substantially greater energy inputs than refining conventional light sweet crude oil, yields significant increases in conventional air pollutants (in particular sulfur dioxide and carbon monoxide) and carbon dioxide. Permits issued for these expansions also reflect significant increases in the discharge of water contaminants and the link of these increases to heavy crude refining needs to be further explored, as well as impacts to local waterbodies . . . . Lastly, the public health implications in local communities near the refineries being upgraded because of the pipeline is also omitted from the cumulative impacts analysis of the draft EIS. A key concern is to what extent these refinery expansions will increase local air and water pollution and increases in waste and other toxic releases."
- Nakagawa Decl., Ex. C, at 4; *see also* Kyle Decl., Ex. B, Table 2, at 18-20 (summarizing NRDC DEIS comments).
27. Other DEIS commenters also urged DOS to analyze air and water pollution impacts, and associated threats to public health, at all the U.S. refineries to be served by Keystone.
- Kyle Decl., Ex. B, Table 1 at 2; Table 2 at 4, 9, 11, 18, 24.
28. NRDC's DEIS comments also urged DOS to analyze, in its FEIS, the greenhouse gas pollution and climate change impacts of Canadian heavy crude oil refining, including tar sands oil refining. The comments noted that the use of tar sands oil generates substantially more global warming pollutants than conventional oil, "because of the massive amounts of energy needed to extract, upgrade, and refine the oil." The comments also stated that "upgrading crude oil is energy intensive" and that the DEIS "does not address impacts from potentially needing to increase energy needs at the refining stage."
- Nakagawa Decl., Ex. C, at 4, 9-10; *see also* Kyle Decl., Ex. B, Table 2, at 18-20 (summarizing NRDC DEIS comments).
29. Other DEIS commenters also urged DOS to analyze the greenhouse gas and climate change impacts of the Keystone project.
- Kyle Decl., Ex. B, Table 2, at 4, 15.
30. The Wood River refinery is the only refinery specifically identified in the FEIS as likely to process Keystone oil.
- Kyle Decl, Ex. A.
31. The FEIS states that "DOS has determined that issuance of a Presidential Permit would constitute a major federal action that may have a significant impact upon the environment within the context of the National Environmental Policy Act of 1969 (NEPA) (42 United
- Kyle Decl, Ex. A, at ES-1.

States Code [USC] § 4321 et seq.).”

32. The FEIS’ discussion of “purpose and need” for the Keystone project states that “The primary purpose of the proposed pipeline is to transport crude oil from the [Western Canadian Sedimentary Basin] across the border to meet the growing demand by refineries and markets in the United States.” It also describes the project as “dictated by,” *inter alia*, “U.S. demand for crude oil, particularly in the Midwest and Gulf States supported by the Keystone Mainline and Cushing Extension . . . .” Kyle Decl., Ex. A, at ES-3; *see also id.* at ES-2 (defining WCSB as Western Canadian Sedimentary Basin).
33. The FEIS states that “[t]he Keystone Project as defined for this EIS consists of the Mainline Project (extending from the Canada/U.S. border to terminals and refineries in Illinois) and the Cushing Extension (extending from Steele City, Nebraska to Cushing, Oklahoma).” Kyle Decl, Ex. A, at 2-1.
34. The FEIS states that “[t]he proposed Keystone pipeline is expected to operate for 50 years or more.” Kyle Decl, Ex. A, at 2-39.
35. The FEIS identifies, as a “Connected Action” to be included in DOS’ impacts analysis for Keystone, the “Wood River Refinery Expansion.” Kyle Decl, Ex. A, at 2-17 to 2-18.
36. DOS’ FEIS discussion of Wood River, unlike the DEIS discussion, does not assert that “[i]t is not possible to predict” where besides Wood River Keystone oil could be sent for refining. Kyle Decl, Ex. A at 2-18 to 2-19; Ex. E, at 2-11.
37. The FEIS includes a discussion of “Mainline Project and Cushing Extension Demand” that states, in full:  
 In December 2005, Keystone provided shippers an opportunity to participate in the Keystone Project by entering into contractual commitments for pipeline capacity. Shippers committed to binding contracts for 340,000 bpd. These binding commitments demonstrate the need for incremental pipeline capacity and access to Canadian crude supplies, and represent a commitment to utilize the Keystone Project. Keystone expects that the remainder of the excess capacity will be utilized by non-contract shippers at the tariff rate approved by the Federal Energy Regulatory Commission (FERC) (ENSR 2006a). Potential shippers also have expressed strong interest in a proposed pipeline extension to the Cushing market area. TransCanada conducted an Open Season process for the

Mainline Project which ran from November 4 to December 1, 2005. As a result of the Open Season, TransCanada has secured firm, long-term contracts totaling 340,000 bpd, with an average duration of 18 years. Keystone anticipates that existing contracts will be renewed and additional contracts will be entered into such that the average contract term will continue beyond 18 years. This reasoning is based on the amount of crude oil reserves in the WCSB and the expected increase in production from the oil sands (TransCanada 2007c). A binding Open Season for the Cushing Extension closed at noon on March 14, 2007 (ENSR 2006a).

38. The FEIS does not indicate how much pipeline capacity was sold in long-term contracts during the March 2007 Open Season referenced at paragraph 37 or at any other time after the first, December 2005 Open Season. Kyle Decl, Ex. A; *see also id.* at ES-4 and 1-6.
39. The FEIS does not discuss the existence of contracts or other long-term commitments for the shipment of any Keystone capacity in excess of 340,000 bpd. Kyle Decl, Ex. A;
40. In the concluding paragraph of the FEIS section identifying the “Wood River Refinery Expansion” as a “connected action” to Keystone, DOS states:  
 Approximately 95,000 bpd of the proposed pipeline’s crude oil capacity would likely be shipped on a short-term spot-order basis to refineries throughout the country. The refineries receiving the oil would need to meet current permit requirements to receive and refine the new crude oil supply. If existing permits would not cover the refining of this new crude oil source or if refinery upgrades were required, permit upgrades would be required. Kyle Decl, Ex. A, at 2-19.
41. The following “DOS Response” appears throughout the FEIS appendix of comments urging DOS to consider refinery impacts:  
 The identity of other refineries where Keystone crude oil would be sent (from transportation hubs) varies depending on market conditions, availability of imports from other countries, weather conditions, etc. U.S. West Coast refineries would not be likely to receive Keystone crude oil, but any other refinery could be a long-term or short-term recipient, depending on decisions made by the shippers and/or the refinery. Some of these refineries may elect to install upgrades similar to those approved for Wood River Kyle Decl., Ex. B, Table 1 at 8; Table 2 at 18, 20, 24.

but they are speculative at this time. The capacity of the Keystone Pipeline represents only about 2% of daily domestic oil consumption; thus the impacts associated with delivery of Keystone crude oil to refineries other than Wood River would be extremely difficult to quantify. It is purely speculative to identify any refinery other than Wood River that is reasonably certain to process Keystone crude oil.

42. The FEIS comments appendix also includes the following recurring “DOS Response”  
 The DEIS addresses the reasonably foreseeable environmental impacts of the construction and operation of the proposed Keystone Pipeline within the United States and is limited to the pipeline which is a transportation system. The scope of the EIS is necessarily limited to the scope of the proposed project and does not extend to the supply of crude oil to the transportation system or the operation of refineries that are supplied by it. Kyle Ex. B, Table 2 at 10, 20.
43. DOS’ FEIS comments appendix repeatedly states, in response to comments urging it to fully analyze air and water pollution impacts at the refineries to be served by Keystone, that refineries “would be held to” the terms of “existing” or “new” air or water permits. Kyle Decl., Ex. B, Table 1 at 2; Table 2 at 4, 11, 18.
44. DOS’ FEIS comments appendix repeatedly states that in DOS’ view, it was not obliged to consider Keystone’s potential connections to and impacts at a proposed Hyperion refinery in South Dakota because “Hyperion is not a Keystone customer and the majority of the Keystone pipeline’s capacity is already committed to other shippers.” Kyle Decl., Ex. B, Table 1 at 5, 6, 11, 12; Table 2 at 2, 3, 4, 6, 15, 37, 39, 43.
45. The FEIS includes no explanation of DOS’ failure to identify any refineries other than Wood River that are likely to process Keystone oil other than the brief discussions referenced at paragraphs 40-44. Kyle Decl., Ex. A.
46. The FEIS’ “Environmental Analysis” subchapter on “Air Quality and Noise” includes one page of discussion of impacts the Wood River refinery, and no discussion of impacts at any other refinery likely to process Keystone oil. The “Air Quality and Noise” subchapter states, in part, that the Wood River refinery has “proposed to increase both the total crude processing and the percentage of heavier crude at the refinery because of the growing volumes of Canadian heavy crude (e.g., the Keystone Pipeline Project).” Kyle Decl., Ex. A, at 3.12-11 to 3.12-12.
47. The “Air Quality and Noise” subchapter states, in part, that the Wood Kyle Decl., Ex

River refinery has “proposed to increase both the total crude processing and the percentage of heavier crude at the refinery because of the growing volumes of Canadian heavy crude (e.g., the Keystone Pipeline Project).”

A, at 3.12-11.

48. The FEIS’ “Environmental Analysis” subchapter discussion of the Wood River refinery also states:

Kyle Decl., Ex A, at 3.12-12.

The proposed project triggers the PSD and NSR permitting requirements due to potential CO and VOC emissions increases. There are net emission decreases of NO<sub>x</sub>, SO<sub>2</sub>, and particulate matter (PM<sub>10</sub> particulates and PM<sub>2.5</sub> particulates) after accounting for credible contemporaneous emission increases and decreases. The new and modified units that would contribute to the increase in CO emissions would undergo a Best Available Control Technology (BACT) analysis as part of PSD. The new and modified units that will contribute to the increase in VOC emissions would undergo a Lowest Achievable Emission Rate (LAER) analysis as part of NSR because the area is nonattainment for 8-hour ozone (precursor compounds are NO<sub>x</sub> and VOCs).

The emissions associated with a major project in a nonattainment area must not interfere with the state plan to achieve attainment of the NAAQS. To account for the emissions increase from a major project proposed in a nonattainment area, the applicant must provide compensating emission reductions from other sources that have not been relied on in the attainment plan. These emission reductions commonly are referred to as emission offsets. ConocoPhillips must obtain creditable emission decreases or offsets from the existing sources in the St. Louis/Metro-East ozone nonattainment area. Because this area is a moderate nonattainment area, emission offsets must be provided at a ratio of 1.15:1.0 (i.e., for each ton of VOC emissions from the project, 1.15 ton of offsets must be provided). At this ratio, ConocoPhillips is required to provide VOC emission offsets of 440.1 tpy to account for the project net emission increase of 407.0 tpy. Acquisition of the emission offsets is required to be completed 90 days after issuance of the permit or prior to commencement of construction, whichever occurs later. Because of these mandatory emission offset requirements, the proposed improvements to the ConocoPhillips facility are not expected to result in adverse air quality impacts.

49. With the exception of the Wood River VOC emissions figure listed at paragraph 48, the FEIS includes no numerical estimates of the air pollution expected to result from the refining of Keystone oil. Kyle Decl., Ex A.
50. With the exception of the Wood River VOC emissions “offset” figure listed at paragraph 48, the FEIS includes no numerical information on the permit or other regulatory limits that would apply to air pollutant emissions expected to result from the refining of Keystone oil. Kyle Decl., Ex A.
51. The FEIS’ “Environmental Analysis” subchapter on “Water Resources” includes one page of discussion of impacts at the Wood River refinery, and no discussion of impacts at any refinery likely to process Keystone oil. Kyle Decl., Ex A, at 3.3-29 to 3.3-30.
52. The “Water Resources” subchapter states that “[d]ue to the increased flow and production associated with [the Wood River refinery expansion], load limits in the NPDES permit were increased and phosphorous limits were added (phosphorous additives are necessary for biological activity),” but does not explain how these permit adjustments will protect the public or the natural environment from the actual effects of the increased pollution at Wood River. The subchapter also states that “[a]lthough sulfate and chloride are expected to increase, because of abundant dilution in the Mississippi River, it was concluded that these parameters would quickly be diluted to below the water quality standard.” Kyle Decl., Ex A, at 3.3-29 to 3.3-30.
53. The FEIS includes no numerical estimates of the water pollution expected to result from the refining of Keystone oil. Kyle Decl., Ex A.
54. The FEIS includes no numerical information on the permit or other regulatory limits that would apply to water pollutant discharges expected to result from the refining of Keystone oil. Kyle Decl., Ex A.
55. The FEIS states that EPA has established national ambient air quality standards for pollutants including sulfur dioxide, nitrogen dioxide, particulate matter, carbon monoxide, and ozone “to protect human health,” but includes no explicit discussion of how the release of these or other air and water pollutants from the refining of Keystone oil could affect human health. Kyle Decl., Ex A; *id.* at 3.12-1.
56. The FEIS does not discuss how pollution released from the refining of Keystone oil could affect the natural environment. Kyle Decl., Ex A.
57. The FEIS’ “Environmental Analysis” subchapters on topics other than “Air Quality and Noise” and “Water Resources” contain, at most, a Kyle Decl., Ex A, at Chs. 3.1,

- few sentences on impacts at Wood River refinery, and no discussion of impacts at any other refinery likely to process Keystone oil. 3.2, 3.4, 3.5, 3.6, 3.7, 3.8, 3.9, 3.10, 3.11, 3.13, 3.14.
58. The FEIS does not refer to the cumulative impacts associated with the refining of Keystone oil. Kyle Decl., Ex A.
59. The FEIS identifies the Wood River refinery as destination of the Keystone pipeline in its “Cumulative Impacts” chapter, but that chapter does not analyze cumulative impacts at Wood River. The “Cumulative Impacts” chapter also does not identify or include in its analysis other Keystone oil refinery or extraction sites. The chapter focuses on impacts along the Keystone pipeline right of way, including visual impacts from “refineries or other industrial facilities” identified with oil supplies from pipelines other than Keystone. Kyle Decl., Ex A, at Ch. 3.14; *id.* at 3.14-1 to 3.14-2 and 3.14-7.
60. The FEIS concludes its chapter on “Cumulative Impacts” with a two-page subchapter entitled “Greenhouse Gases and Global Warming.” The “Greenhouse Gases and Global Warming” subchapter does not mention the Wood River refinery or any other Keystone oil refinery or extraction site. Kyle Decl., Ex A, at 3.14-9 to 3.14-11.
61. The FEIS’ “Greenhouse Gases and Global Warming” subchapter provides a numerical estimate of total greenhouse gas emissions in the United States, but does not provide numerical estimates of the greenhouse gas emissions from any part of the Keystone project. Kyle Decl., Ex A, at 3.14-9 to 3.14-11.
62. The FEIS’ “Greenhouse Gases and Global Warming” subchapter states, in part: Kyle Decl., Ex A, at 3.14-9 to 3.14-10.
- At the current time, no rules or regulations have been promulgated by any federal or state agency to define as “significant” any source of greenhouse gas emissions. There are also no currently applicable facility-specific emission limitations or caps for greenhouse gas emissions. Thus, there is no regulatory or guidance mechanism for determining standards of significance for greenhouse gas impacts, including General Conformity Thresholds.
- According to the Association of Environmental Professionals, there are currently no published thresholds or recommended methodologies for determining the significance of a project’s potential cumulative contribution to global climate change (Hendrix et al., 2007). Even very large individual projects do not generate sufficient

greenhouse gas emissions to individually influence global climate change.

Nevertheless, the cumulative effects of greenhouse gases have been determined to have led to climate change on a global scale, which is considered to be a significant cumulative effect. A project contributes to this impact by its incremental contribution, combined with the cumulative increase of all other sources of greenhouse gases.”

63. The FEIS’ “Greenhouse Gases and Global Warming” subchapter also states: Kyle Decl., Ex A, at 3.14-10.
- In attempting to meet the purpose and need for the Keystone Project, construction and operation of the proposed Project would incrementally increase the cumulative impact of greenhouse gas emissions. The carbon emissions associated with construction and operation would occur irrespective of the routing of the pipeline. However, the ultimate construction and operation of the pipeline would offset potential emissions associated with other methodologies for meeting the demand for imported crude oil, such as delivery of crude oil by tanker from alternative international sources. Keystone has committed to restoration and replanting of vegetative cover along the proposed pipeline corridor to the extent compatible with safety and operational requirements. This commitment would allow any advantages associated with carbon sinks along the proposed corridor to be reestablished after temporary disruption during the construction phase. Therefore, the incremental contribution to greenhouse gas emissions associated with construction and operation of the proposed Keystone [*sic*] is likely to be relatively small compared to the nationwide production of greenhouse gases on an annual basis.
64. The FEIS’ “Cumulative Impacts” chapter does not specifically identify or provide numerical estimates for any pollutant other than “greenhouse gas” emissions for the United States as a whole. Kyle Decl., Ex. A, Ch. 3.14.
65. The FEIS’ “Cumulative Impacts” chapter concludes with the following “Summary of Cumulative Impacts” Kyle Decl., Ex. A, at 3.14-11.
- The majority of cumulative impacts associated with construction and operation of the Keystone Project would be localized, temporary, and minor. Long-term cumulative impacts on vegetation and land uses could occur if other

reasonably foreseeable future projects (see Section 3.14.2) are constructed, particularly construction of the portion of the REX pipeline that is collocated with the Keystone Project. Long-term cumulative benefits would be realized along the pipeline route from the tax base increment to local tax revenues. Short-term cumulative benefits also would be realized through jobs and wages and purchases of goods and materials during construction.

66. The FEIS' "Alternatives" chapter includes one-page discussion of a "No Action Alternative" pursuant to which "the Keystone Project would not be constructed and operated as described [in this FEIS]," and "the environmental impacts discussed in this EIS would not occur." Kyle Decl., Ex. A, at 4-1.
67. The mitigation measures identified in the FEIS and its Appendix B (entitled "Construction, Mitigation and Reclamation Plans") are addressed to the impacts of construction and operation of the pipeline itself and do not address the impacts of refining oil supplied by the pipeline. Kyle Decl., Ex. A; Ex. C.
68. The ROD states that "Even if national energy policy were to slow crude oil demand growth in coming year, heavy oil imports from the WCSB are expected to increase." Kyle Decl., Ex. F, at 7.
69. The ROD states that "[m]any U.S. refiners have completed or are in the process of completing retrofits to process heavier crude," including "the heavy crude oil that Keystone will deliver . . . ." Kyle Decl., Ex. F, at 8.
70. The FEIS' "Purpose and Need" discussion states that "Even with modifications to existing systems and de-bottlenecking efforts that are underway . . . it is likely that crude oil exports from the WCSB to the United States will exceed available pipeline capacity in 2009, necessitating the construction of a new pipeline to facilitate continued importation of crude oil." Kyle Decl., Ex. A, at ES-5.
71. ConocoPhillips' "10-K" financial report for 2005, lodged with the United States Securities and Exchange Commission ("SEC") in early 2006 ("2005 annual report"), identifies the company as the owner and operator of a dozen U.S. refineries. These include the Wood River refinery in Roxana, Illinois and refineries in Borger, Texas and Ponca City, Oklahoma. Kyle Decl. Ex. G\*, at cover, 23.
72. ConocoPhillips' 2005 annual report states that ConocoPhillips' Wood River, Illinois refinery "processes a mix of both light low-sulfur and Kyle Decl. Ex. G\*, at cover, 23,

- heavy high-sulfur crude oil” and “receives domestic and foreign crude oil by various pipelines.” The report also states that “[i]n November 2005, [Wood River] announced plans to install . . . Zorb™ Sulfur Removal Technology (SRT) at the refinery. The new 32,000-barrel-per-day S Zorb SRT unit is targeted for completion in early 2007.” 25.
73. ConocoPhillips’ 2005 annual report states that “[b]oth foreign and domestic crude oil are delivered by pipeline from the Gulf of Mexico, Oklahoma, Kansas, Texas and Canada” to ConocoPhillips’ Ponca City, Oklahoma refinery.” Kyle Decl. Ex. G\*, at cover, 23, 25.
74. ConocoPhillips’ 2005 annual report states that ConocoPhillips’ Borger, Texas refinery is equipped to “receive foreign crude oil via company-owned pipeline systems.” The report further states that “[d]uring 2005, construction began on a 25,000-barrel-per-day coker at the Borger refinery, with an estimated completion date in the second quarter of 2007.” The report identifies, among the “benefits” of this construction project, “capability to process heavy Canadian crude oil.” Kyle Decl. Ex. G\*, at cover, 23, 26.
75. On November 3, 2005, ConocoPhillips announced in a public press release that ConocoPhillips and its wholly owned subsidiary ConocoPhillips Pipe Line Company (“CPPL”) “have entered into a Memorandum of Understanding which commits ConocoPhillips Company to ship crude oil on the proposed Keystone oil pipeline (Keystone), and gives CPPL the right to acquire up to a fifty per cent ownership interest in the pipeline, subject to certain conditions being met.” The press release includes a statement from ConocoPhillips’ Executive Vice President for Refining, Marketing, Supply and Transportation that “[t]he Keystone pipeline is an excellent opportunity to further integrate our upstream assets in Canada with our Wood River refinery in Illinois. The pipeline will also play a critical role in supplying North American crude oil to refineries in the U.S. mid-continent region.” Kyle Decl., Ex. I\*.
76. On November 4, 2005, TransCanada issued a public press release in which it announced the start of a “binding Open Season process for the proposed Keystone oil pipeline.” That press release also stated that TransCanada and a subsidiary of ConocoPhillips had entered a Memorandum of Understanding “which commits ConocoPhillips Company to ship crude oil on the proposed Keystone pipeline and gives [the subsidiary] the right to acquire up to a fifty per cent ownership interest in the pipeline, subject to certain conditions being met.” Kyle Decl., Ex. J\*.
77. On January 31, 2006, TransCanada issued a public press release in Kyle Decl., Ex.

- which it announced that “the Keystone Oil Pipeline project has secured firm, long-term contracts totaling 340,000 barrels per day with duration averaging 18 years. The commitments were obtained through the successful completion of a binding Open Season held during the fourth quarter of 2005.” K\*.
78. In July 2006, a consultant to Keystone partner TransCanada testified to the Illinois Commerce Commission (“ICC”) about refineries likely to take oil from Keystone. Kyle Decl., Ex. L\*.
79. TransCanada’s consultant testified to the ICC that the Mainline, or Illinois, branch of the pipeline would deliver crude oil to both Patoka, Illinois, a “major hub for incoming and outgoing crude oil pipelines,” and to the ConocoPhillips Wood River refinery. Kyle Decl., Ex. L\*, at cover, 9.
80. TransCanada’s consultant testified to the ICC that ConocoPhillips “operates a pipeline from Wood River to its Ponca City, Oklahoma refinery.” Kyle Decl., Ex. L\*, at cover, 2, 9.
81. TransCanada’s consultant testified to the ICC that crude oil “can be delivered from Patoka to four other refineries in southern Illinois, Indiana, Ohio, [and] Kentucky.” Kyle Decl., Ex. L\*, at cover, 2, 9
82. TransCanada’s consultant testified to the ICC that “[t]he refineries supplied from Wood River and the Patoka hub” “have increased their use of Canadian heavy crude over the last decade.” Kyle Decl., Ex. L\*, at cover, 2, 14.
83. TransCanada’s consultant testified to the ICC that one of the refineries “to be served by” Keystone is the Marathon Refinery in Robinson, Illinois. The consultant further testified that the Marathon Refinery “is carrying out conceptual studies for an expansion project to use 150,000 B/D of Canadian heavy crude.” Kyle Decl., Ex. L\*, at cover, 2, 15, 17.
84. TransCanada’s consultant testified to the ICC that U.S. refineries in other areas were “also constructing or planning to add facilities to use more Canadian crude.” In connection with this statement, the consultant testified that “[i]n the mid-continent area which is supplied from Cushing, ConocoPhillips is adding a coker at its 146,000 B/D Borger, Texas refinery to use Canadian heavy crude. Frontier is modifying its 110,000 B/D refinery at El Dorado, Kansas to use more heavy crude by expanding its crude unit and vacuum tower. Coffeyville Resources is expanding and revamping its crude and vacuum units and making improvements at its coker to allow the 112,000 B/D refinery at Coffeyville, Kansas to process heavier crudes by late 2006.” Kyle Decl., Ex. L\*, at cover, 2, 15.

85. On October 5, 2006, ConocoPhillips announced in SEC filings that it was “creating a long-term integrated North American heavy oil business” with EnCana, a Canadian company that produces and markets tar sands oil. The venture combined EnCana’s interests in Canadian tar sands (“oilsands”) extraction and marketing with ConocoPhillips’ interests in refining at Wood River, Illinois, and Borger, Texas. Kyle Decl., Ex. M\*, at pp. 3-4, 11, 15-16 of slide presentation.
86. ConocoPhillips’ October 5, 2006 SEC filing indicates that under the EnCana joint venture, the Borger refinery would add approximately 75,000 bpd in new bitumen refining capacity by 2013. The filing also indicates that under the joint venture, the Wood River refinery would add approximately 170,000 bpd in new bitumen refining capacity, for a total capacity of approximately 200,000 bpd of bitumen refining by 2013. Kyle Decl., Ex. M\*, at p. 15 of slide presentation.
87. ConocoPhillips’ October 5, 2006 SEC filing includes the Keystone project and the Wood River and Borger refineries on a map entitled “Industry Transportation Initiatives / Expanding Market Access.” The map also highlights the locations of the Wood River and Borger refineries. Kyle Decl., Ex. M\*, at p. 13 of slide presentation.
88. On October 5, 2006, ConocoPhillips announced in a public press release that “ConocoPhillips . . . and Encana Corporation . . . have entered into an agreement to create an integrated, North American heavy oil business consisting of strong upstream and downstream assets.” The press release stated that the agreement would create an “upstream partnership” consisting of “EnCana’s Foster Creek and Christina Lake projects, both located in the prolific eastern flank of the Athabasca oilsands in northeast Alberta,” as well as a “downstream partnership” consisting of “ConocoPhillips’ Wood River and Borger refineries, located in Roxana, Illinois, and Borger, Texas, respectively.” The press release includes a statement by ConocoPhillips’ chairman and Chief Executive Officer that “This venture builds on our current and planned heavy-oil expansion work at both Wood River and Borger and provides a stable, long-term supply to our U.S. refineries.” Kyle Decl., Ex. N\*.
89. ConocoPhillips’ “10-K” financial report for 2006, filed with the SEC in early 2007 (“2006 annual report”), states: “In November 2005, we entered into a Memorandum of Understanding which commits us to ship crude oil on the proposed Keystone oil pipeline, and gives us the right to acquire up to a 50 percent ownership interest in the pipeline, subject to certain conditions being met.” Kyle Decl., Ex. H\*, at 1, 28.

90. ConocoPhillips' 2006 annual report further states: "We expect to utilize the Keystone pipeline to supply Canadian crude to our U.S. refineries in the central region and to transport our Canadian crude production to market." Kyle Decl., Ex. H\*, at 28.
91. ConocoPhillips' 2006 annual report lists the company's Wood River, Borger, and Ponca City refineries as its "Central Region" refineries. Kyle Decl., Ex. H\*, at 25-26.
92. ConocoPhillips' 2006 annual report states that ConocoPhillips' joint venture with EnCana "plans to expand heavy-oil processing capacity at [the Wood River and Borger refineries] from 60,000 barrels per day to approximately 550,000 barrels per day by 2015." Kyle Decl., Ex. H\*, at 25; *see also id.* at 10.
93. ConocoPhillips' 2006 annual report also identifies ConocoPhillips' Ponca City refinery as a processor of heavy crude and Canadian crude. Kyle Decl., Ex. H\*, at 26.
94. On July 3, 2007, TransCanada issued a public press release in which it announced that "the proposed Keystone Oil Pipeline project has secured 155,000 barrels per day of additional firm contracts from Hardisty, Alberta to Cushing, Oklahoma with duration averaging 16 years. The commitments were obtained through the successful completion of a binding Open Season held to support an expansion to 590,000 barrels per day and extension of the pipeline to Cushing, Oklahoma. TransCanada has now secured long term contracts for a total of 495,000 barrels per day with an average duration of 18 years." Kyle Decl., Ex. O\*.
95. In a September 6, 2007 SEC filing, CVR Energy Corporation ("CVR"), which owns a refinery in Coffeyville, Kansas, reported that it had "executed a Petroleum Transportation Service Agreement in June 2007 with TransCanada Keystone Pipeline, LP (TransCanada). TransCanada is proposing to construct, own and operate a pipeline system and a related extension and expansion of the capacity that would terminate near Cushing, Oklahoma. TransCanada has agreed to transport a contracted volume amount of at least 25,000 barrels per day with a Cushing delivery point as the contract point of delivery. The contract term is a 10 year period which will commence upon the completion of the pipeline system." Kyle Decl., Ex. P\*, at cover, F-64; *see also id.* at 3-4, 79, 157.
96. In its September 6, 2007 SEC filing, CVR also stated that it had "identified and developed several significant capital projects since June 2005 primarily aimed at (1) expanding refinery and nitrogen fertilizer plant capacity (throughput that the plants are capable of sustaining on a daily basis), (2) enhancing operating reliability and flexibility, (3) complying with more stringent environmental, health and safety standards, and (4) improving our ability to process heavier Kyle Decl., Ex. P\*, at 2; *see also id.* at 79, 157 - 159, 162.

sour crude feedstock varieties (petroleum products that are processed and blended into refined products). We have completed most of these capital projects and expect to complete substantially all of the capital projects by the end of 2007.”

97. In its September 6, 2007 SEC filing, CVR stated that “We are also evaluating projects that will improve our ability to process heavy crude oil feedstocks and to increase our overall operating flexibility with respect to crude oil slates.” Kyle Decl., Ex. P\*, at 159.
98. In its annual report for its 2007 fiscal year, which ended in August 2007, the National Cooperative Refining Association (“NCRA”), which owns a refinery in McPherson, Kansas, stated:  
 This year our key accomplishments include the completion of the Crude Optimization and Rate Evaluation (CORE) study that assessed our ability to process additional heavy Canadian crude oil in the refinery. The study revealed that a project has merit and NCRA’s Board of Directors has authorized initial environmental permit funding with a final decision to be made in the fall of 2007. In addition to refinery modifications, NCRA has entered into a 10-year pipeline throughput agreement with TransCanada for 20,000 BPD of capacity on Keystone Pipeline. This extension will traverse Kansas and will deliver up to 435,000 BPD of heavy Canadian crude oil to Cushing, Oklahoma. This pipeline will give NCRA additional access to Canadian heavy sour crude oil and support any potential expansion projects that may be spawned by the CORE study. Kyle Decl., Ex. Q\*, at 1-2 (identifying NCRA as McPherson refinery owner and providing financial highlights for fiscal year ending Aug. 31, 2007), 4.
99. On January 28, 2008, TransCanada issued a public press release stating, in relevant part, that “ConocoPhillips [NYPSE:COP] and TransCanada Corporation [TXS, NYSE:TRP] today announced that ConocoPhillips acquired a 50 per cent ownership interest in the Keystone Oil Pipeline. A previously signed Memorandum of Understanding committed ConocoPhillips to ship crude oil on the pipeline and gave the right to acquire up to a 50 per cent ownership interest.” Kyle Decl., Ex. R\*.
100. ConocoPhillips’ “10-K” financial report for 2007, filed with the SEC on February 22, 2008, states: “We expect to utilize the Keystone pipeline to transport our Canadian crude oil production to market, including as a source of supply to WRB.” The report also states that “WRB consists of the Wood River and Borger refineries, located in Roxana, Illinois, and Borger, Texas, respectively. . . . The joint

venture has expanded the processing capability of heavy Canadian crude to 95,000 barrels per day from 60,000 barrels per day with the startup of a new coker at Borger. With the completion of the Wood River coker and refinery expansion project, anticipated in 2011, we expect the capability to grow to 225,000 barrels per day. Further expansion of both Wood River and Borger are expected to provide the ultimate capability to process 550,000 barrels per day.”

101. Western Canadian heavy crude oils are typically heavier (or more abundant in larger, denser hydrocarbon molecules) and higher in sulfur content than most crude oils worldwide, including most crude oils currently processed by refineries in the Midwest, or Petroleum Administration Defense District (“PADD II”) region, which includes Illinois and Kansas. The heavier components of crude oil boil off at higher temperatures. Karras Decl.\*  
¶¶ 9, 13-14, 16-17, & n.1;  
Hartman Decl.\*  
¶ 10.
102. Western Canadian crude oils derived from tar sands have higher concentrations of sulfur, nitrogen, heavy metals (including lead, nickel, chromium, boron, arsenic, zinc, and vanadium), and certain other chemical compounds than the light and medium crude oils typically processed at Midwest and Gulf Coast refineries. Many of these compounds are known to be toxic to humans and wildlife. Hartman Decl.\*  
¶¶ 10-11, 17; *see also* Karras Decl.\* ¶¶ 9, 47.
103. Western Canadian heavy crude oils, including oils derived from tar sands, are also typically more viscous and more acidic than lighter crude oils. Karras Decl.\*  
¶¶ 12, 46;  
Hartman Decl.\*  
¶ 11.
104. The refining of heavy Canadian crude oils from tar sands releases more of certain air pollutants – including some heavy metals (such as lead, nickel chromium, boron, arsenic, zinc, and vanadium), carbon dioxide, carbon monoxide, and certain sulfur and nitrogen compounds – than the refining of lighter crude oils. These pollutants can pose severe risks to human health and the environment. Where released as air pollutants, they can also reduce visibility and generate odors. Hartman Decl.\*  
¶¶ 13-17.
105. Conversion to Western Canadian heavy crude oil refining from lighter crude oil refining is also likely to result in larger and more frequent releases of toxic gases through flaring, venting, and fugitive emissions. These releases can expose refinery workers, and those living near refineries, to potentially severe and health-threatening air pollution. Karras Decl.\*  
¶¶ 9, 45, 56; *see generally id.*  
¶¶ 46-57;  
Hartman Decl.\*  
¶ 17-20.
106. Conversion to Canadian heavy crude oil refining from lighter crude oil refining is also likely to result in increased water pollution, Hartman Decl.\*  
¶¶ 21-22.

including additional releases of hazardous chemicals that can affect waterways and wildlife.

107. Many of the releases described in paragraphs 105-106 are either unregulated or poorly controlled by permits issued to refineries under the Clean Air Act and Clean Water Act. Hartman Decl.\* ¶¶ 18-19, 22.
108. Refineries must often make more intensive use of their existing equipment, and/or install additional equipment, to process Western Canadian heavy crude oils in lieu of lighter crude oils. Karras Decl.\* ¶¶ 9, 15-23, 28, 36; Hartman Decl.\*, ¶ 14.
109. The processing and equipment changes necessary to convert to Western Canadian heavy crude oil refining from lighter crude oil refining increase the amount of energy refineries need to process each barrel of oil. Karras Decl.\* ¶¶ 9, 15-23, 28, 36; *see also id.* ¶¶ 37-43.
110. The increased energy requirements described at paragraph 109 are typically satisfied through the burning of fossil fuels, such as natural gas. That burning releases greenhouse gases. Karras Decl.\* ¶ 36; *see also id.* ¶¶ 21, 37-44.
111. The refining of Western Canadian heavy crude oils is likely to generate substantially higher greenhouse gas emissions, barrel for barrel, than the refining of lighter crude oils. Karras Decl.\* ¶ 9; *see also id.* ¶¶ 7, 37-41.
112. Conversion to the refining of Canadian heavy crude oil from lighter crude oil refining is likely to result in increased air and water pollution (including greenhouse gas pollution) even where the Canadian heavy crude oil simply replaces the lighter crude oil barrel for barrel, with no increase in refining capacity. Hartman Decl.\* ¶¶ 12, 21; Karras Decl.\* ¶ 41.
113. Increased refining of Canadian heavy crude oils can also be expected to increase air and water pollution (including greenhouse gas pollution) where this additional refining supplements rather than replaces existing, lighter crude oil refining. Hartman Decl.\* ¶¶ 12, 21; Karras Decl.\* ¶ 40.
114. The approval of the Keystone pipeline can be expected to increase air and water pollution at U.S. refineries. Hartman Decl.\* ¶ 7; *see also id.* ¶¶ 8-22.
115. The greenhouse gas impacts of refining the Western Canadian heavy crude oil the Keystone pipeline would supply to U.S. refineries would be substantial. A preliminary estimate indicates that refining Keystone oil could generate in the range of 1.5 to over 5 million metric tons per year of incremental greenhouse gas emissions. Karras Decl.\* ¶ 7; *see also id.* ¶¶ 9, 37-41.

116. DOS could have conducted an analysis of the reasonably foreseeable air and water pollution impacts (including greenhouse gas impacts) of the Keystone project, using publicly available information, before it released its January 2008 FEIS on the Keystone project. DOS could also have requested more specific information from Keystone to support a more detailed analysis.
- Hartman Decl.\*  
¶¶ 7, 23-25;  
Karras Decl.\*  
¶¶ 6, 37-43; *see also* Hartman Decl.\* ¶ 5, Karras Decl.\*, Appx. 2 (listing references).
117. DOS could have conducted an analysis of the reasonably foreseeable overall air and water pollution impacts (including greenhouse gas impacts) of the Keystone project before it released its January 2008 FEIS on the Keystone project even if it had not been possible to identify all the refineries likely to process Keystone oil.
- Hartman Decl.\*  
¶¶ 7, 23-25;  
Karras Decl.\*  
¶¶ 6, 37-43; *see also* Hartman Decl.\* ¶ 5, Karras Decl.\*, Appx. 2 (listing references).
118. NRDC has over 400,000 U.S. members, including over 19,000 who live in Illinois, over 13,000 who live in Texas, more than 2,900 who live in Kansas, and more than 2,000 who live in Oklahoma.
- Trujillo Decl.  
¶ 7; *see also* Millard Decl. ¶ 3; Sharp Decl. ¶ 3; Tervydis Decl. ¶ 3.
119. NRDC members live near several refineries likely to process heavy crude oil from the Keystone pipeline, including the ConocoPhillips' Wood River, Illinois and Borger, Texas refineries and NCRA's McPherson, Kansas refinery.
- Millard Decl.  
¶ 3; Tervydis Decl. ¶ 3; Sharp Decl. ¶ 3.
120. NRDC's members, including those members who live near refineries likely to process heavy crude oil from the Keystone pipeline, rely on NRDC to provide them with information on current environmental issues that affect them, their communities, and the natural environments they value.
- Millard Decl.  
¶¶ 2, 6-8; Sharp Decl. ¶¶ 2, 6-9; Tervydis Decl. ¶¶ 2, 4-5, 9-10; Trujillo Decl. ¶ 9.
121. NRDC's mission statement declares that "The Natural Resources Defense Council's purpose is to safeguard the Earth: its people, its plants and animals, and the natural systems on which all life depends." The mission statement goes on to declare that NRDC works "to restore the integrity of the elements that sustain life – air, land, and water –
- Trujillo Decl.  
¶ 8.

and to defend endangered natural places.” NRDC’s mission includes the prevention and mitigation of air and water pollution, harm to fish and wildlife, habitat destruction, and health threats posed by toxic chemicals in order to protect and maintain NRDC members’ health and use and enjoyment of natural resources.

122. NRDC’s organizational interests include informing NRDC members and the public about air and water pollution (including greenhouse gas pollution) that threatens their health and the natural environment, as well as advocating for control of such pollution. Trujillo Decl. ¶ 9.
123. NRDC relies on NEPA, among other vehicles, to develop information on environmental impacts that it shares with its members. Trujillo Decl. ¶ 9.
124. NRDC members who reside near refineries likely to refine Keystone oil are reasonably concerned that Keystone will increase pollution in their communities, threatening their and their families’ health and the natural environments they enjoy. Millard Decl. ¶¶ 3-6; Sharp Decl. ¶¶ 4-8; Tervydis Decl. ¶¶ 3-9.
125. These members are also reasonably concerned that the Keystone project will increase greenhouse gas emissions and contribute to climate change. Tervydis Decl. ¶ 10; Millard Decl. ¶ 8; Sharp Decl. ¶ 9.
126. These members would like better information about how this pollution will affect them than they have been able to obtain. Millard Decl. ¶¶ 6-8; Sharp Decl. ¶¶ 6, 8-9; Tervydis Decl. ¶¶ 4, 9-10.
127. DOS’ failure to comply with NEPA in issuing a Presidential Permit to Keystone has injured NRDC’s members by depriving them of timely and complete information on the refinery pollution that will threaten them if the project proceeds. NRDC’s members’ injuries individual, concrete and particularized, and actual or imminent; fairly traceable to DOS’ conduct, likely to be redressed by a decision favorable to NRDC in this action; and cognizable under NEPA. Millard Decl.; Sharp Decl.; Tervydis Decl.
128. This action is germane to NRDC’s organizational interests in gathering and disseminating information on greenhouse gas and other pollution that threatens human health and the environment. Trujillo Decl. ¶ 9; First Am. Compl., Doc. No. 21.
129. NRDC’s members have standing to sue in their own right to Millard Decl.;

challenge the NEPA violations alleged in this case.

Sharp Decl.;  
Tervydis Decl.;  
Trujillo Decl.;  
First Am.  
Compl., Doc.  
No. 21.

130. This action does not require the individual participation of NRDC's members.

First Am.  
Compl., Doc.  
No. 21.

Dated: San Francisco, California  
October 17, 2008

Respectfully submitted,

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**CERTIFICATE OF SERVICE**

I, Selena K. Kyle, hereby certify that on October 17, 2008, I served the foregoing documents:

**PLAINTIFF NRDC'S MOTION FOR SUMMARY JUDGMENT  
AND SUPPORTING MEMORANDUM OF POINTS AND AUTHORITIES**

**PLAINTIFF NRDC'S SEPARATE STATEMENT OF UNDISPUTED FACTS  
IN SUPPORT OF MOTION FOR SUMMARY JUDGMENT**

**PROPOSED ORDER  
GRANTING PLAINTIFF'S MOTION FOR SUMMARY JUDGMENT**

on the following counsel via the Court's electronic filing system:

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I declare under penalty of perjury that the foregoing is true and correct.

Executed October 17, 2008:

/s/ Selena K. Kyle  
Selena K. Kyle