

**Sierra Club \* Sierra Club Illinois Chapter  
National Wildlife Federation \* Center for Biological Diversity \* For Love of Water  
Environmental Law and Policy Center \* Prairie Rivers Network**

July 7, 2014

U.S. Army Corps of Engineers  
Chicago District, Regulatory Branch  
Attn: LRC-2013-00226, Mr. Paul Leffler  
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*Re: Comments on the Proposed Enbridge Energy, Limited Partnership, Line  
78 Pipeline Project, **Request for Public Hearings on 404 Permit and 401  
Certification***

Dear Mr. Leffler and Mr. Faught,

On behalf of the Sierra Club, the Sierra Club Illinois Chapter, National Wildlife Federation, Center for Biological Diversity, the Environmental Law and Policy Center, Prairie Rivers Network, and For Love of Water, we submit the following comments regarding the application of Enbridge Energy, Limited Partnership, (hereafter “Enbridge”) for a Department of the Army permit for construction of Line 78, a crude oil pipeline in Illinois and Indiana. This is pursuant to Public Notice LRC-2013-226 (May 23, 2014), and a June 18, 2014 email from Paul Leffler indicating that the comment period had been extended through July 7, 2014. Concurrently, the Illinois EPA posted public notice of its preliminary assessment to grant Section 401 water quality certification for the proposed pipeline for impacts in Will and Cook counties, Illinois. As we describe below in Section V, Illinois EPA must also conduct an individual Section 401 water quality certification for the rest of the pipeline project in Kankakee, Grady and Livingston counties since waters of particular biological significance, the biologically significant East Branch Mazon River, are to be crossed.

Sierra Club has members who live and recreate in the Kankakee River, Vermilion and Mazon River watersheds. Our members engage in activities including fishing, birdwatching, hunting, boating, canoeing, kayaking and other wildlife viewing and are adversely impacted by activities which destroy wetland, riparian and stream habitat and pollute waters with sediment due to construction activities, frac-outs from pipeline drilling and spills from pipelines. Many of the other undersigned groups have members with similar interests who stand to be impacted by this project in similar ways.

## **I. Project Background**

According to the Corps' Notice of May 23, 2014, Enbridge is proposing to build the Line 78, which would be a new 36-inch in diameter, 79.6 mile long crude oil pipeline that would transport crude oil from Illinois to Western Indiana. Enbridge's web site states that Line 78 will begin at Enbridge's Flanagan Terminal near Pontiac, Ill., where it will connect with other Enbridge oil pipelines, and travel northeast to Enbridge's Terminal near Griffith, Ind.<sup>1</sup> Line 78 would have an average annual capacity of 570,000 barrels per day (bpd), but would be designed to allow increased throughput in the future if demand warrants.<sup>2</sup>

Enbridge states that the purpose of the pipeline is to "expand Enbridge's capacity to transport growing supplies of crude oil produced in the Williston Basin region around North Dakota and light and heavy crude production in western Canada," the latter of which is commonly referred to as tar sands crude.<sup>3</sup> The crude shipments on Line 78 would be transported to regional refineries for processing.<sup>4</sup>

## **II. Request for a Public Hearing**

For the reasons set forth in detail throughout this comment letter, commenters hereby request a public hearing on the Line 78 pipeline project. The Clean Water Act provides in its general policy section that "public participation in the development . . . of any . . . program established by the Administrator. . . under this chapter shall be provided for, encouraged, and assisted by the Administrator . . ." 33 U.S.C. § 1251(e). Section 404 states: "[t]he Secretary may issue permits, after notice *and opportunity for public hearings* for the discharge of dredged or fill material into the navigable waters at specified disposal sites." 33 U.S.C. § 1344(a) (emphasis added). Corps regulations further state: "any person may request, in writing, . . . that a public hearing be held . . . [and that] [r]equests for a public hearing under this paragraph shall be granted, unless the district engineer determines that the issues raised are insubstantial or there is otherwise no valid interest to be served by a hearing." 33 C.F.R. § 327.4(b).

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<sup>1</sup> <http://www.enbridge.com/Line78PipelineProject.aspx>

<sup>2</sup> <http://www.enbridge.com/~media/www/Site%20Documents/Delivering%20Energy/Projects/US/ENB2013-Line78-L11.pdf>

<sup>3</sup> <http://www.enbridge.com/Line78PipelineProject.aspx>

<sup>4</sup> *Id.*

### **III. The Corps Must Demonstrate Compliance with Clean Water Act Requirements when Permitting the Proposed Pipeline**

#### **A. Legal Background**

The Clean Water Act was enacted by Congress in 1972 to “restore and maintain the chemical, physical, and biological integrity of the Nation’s waters.” 33 U.S.C. § 1251(a). To achieve this goal, section 404 of the CWA prohibits the discharge of any pollutant, including dredged spoil or other fill material, into navigable waters unless authorized by a permit. *Id.* § 1344.

The Corps oversees the CWA § 404 permit process and must comply with guidelines promulgated by the U.S. Environmental Protection Agency (“EPA”), which are incorporated into the Corps’ own regulations. *Id.* § 1344(b)(1); 33 C.F.R. §§ 320.4(b)(4), 325.2(a)(6). The EPA guidelines pertinent to this case are set forth in EPA’s § 404(b)(1) regulations, at 40 C.F.R. § 230. The intent behind the regulations is that dredged or fill material should not be discharged if it will result in an unacceptable impact on the aquatic ecosystem. 40 C.F.R. § 230.1(c).

In general, the regulations provide that no discharge of dredged or fill material shall be permitted: (1) if there is a practicable alternative to the proposed discharge; (2) if the discharge causes or contributes to violations of applicable state water quality standards; (3) if the discharge will cause or contribute to significant degradation of the environment; and (4) unless all appropriate steps have been taken to minimize potential adverse impacts. 40 C.F.R. § 230.10. The Corps’ regulations also require that destruction of wetlands is to be avoided to the extent practicable. 33 C.F.R. § 320.4(r).

The regulations further provide that “practicable alternatives” include “not discharging into the waters of the U.S. or discharging into an alternative aquatic site with potentially less damaging consequences.” 40 C.F.R. §§ 230.5(c), 230.10(a). If a project is not “water dependent,” as is the case with crude oil pipelines, the guidelines contain a presumption that a less environmentally damaging practicable alternative exists, and require that the applicant clearly demonstrate that practicable alternatives which would not involve discharge of fill material into special aquatic sites were not available. 40 C.F.R. § 230.10(a)(3).

In addition, the regulations require that when information is prepared by the applicant, it shall be independently evaluated and verified by the Corps as required by 40 C.F.R. § 1506.5(a). 33 C.F.R. Part 325. Under 40 C.F.R. § 1506.5(b): “The agency shall independently evaluate the information submitted and shall be responsible for its accuracy. . . . It is the intent of this paragraph that acceptable work not be redone, but that it be verified by the agency.”

An alternative to the individual permit process is the nationwide permit program. Section 404(e) allows the Corps to, “after notice and opportunity for public hearing, issue general permits on a State, regional, or nationwide basis for any category of activities

involving discharges of dredged or fill material if the Secretary determines that the activities in such category are similar in nature, will cause only minimal adverse environmental effects when performed separately, and will have only minimal cumulative adverse effect on the environment.” 33 U.S.C. § 1344(e)(1).

On February 21, 2012, the Corps issued a final rule issuing/reissuing 52 Nationwide Permits, including Nationwide Permit 12 (“NWP 12”) that is at issue in this case. 77 Fed. Reg. 10,184 (Feb. 21, 2012). The Corps also issued a “Decision Document” and FONSI for NWP 12, dated February 13, 2012, which purports to comply with NEPA.

The Corps’ Nationwide Permit 12 (“NWP 12”) authorizes “[a]ctivities required for the construction, maintenance, repair, and removal of utility lines and associated facilities [including oil pipelines] in waters of the United States, provided the activity does not result in the loss of greater than 1/2-acre of waters of the United States for each single and complete project.” 77 Fed. Reg. at 10,271. However, the definition of “single and complete linear project” allows the Corps to treat each water crossing as a separate “single and complete project.” 77 Fed. Reg. at 10,290.

NWP 12 relies on the discretion of division and district engineers to ensure that specific utility projects permitted under NWP 12 would not have more than minimal individual and cumulative adverse environmental effects, as required by CWA 404(e). For example, the Federal Register announcement states: “in response to pre-construction notifications for NWP 12 activities that are linear projects, district engineers will evaluate the cumulative effects of those linear projects on the aquatic environment when determining whether authorization by NWP is appropriate.” 77 Fed. Reg. at 10,260; *see also* 77 Fed. Reg. at 10,287 (“In reviewing the PCN for the proposed activity, the district engineer will determine whether the activity authorized by the NWP will result in more than minimal individual or cumulative adverse environmental effects or may be contrary to the public interest.”).

NWP 12 requires the Corps district offices to evaluate the cumulative environmental effects of overall utility lines, including all “single and complete projects” along a linear project’s length, and make a determination as to whether the cumulative environmental effects would be more than minimal: “In reviewing the PCN for the proposed activity, the district engineer will determine whether the activity authorized by the NWP will result in more than minimal individual or cumulative adverse environmental effects... For a linear project, this determination will include an evaluation of the individual crossings to determine whether they individually satisfy the terms and conditions of the NWP(s), as well as the cumulative effects caused by all of the crossings authorized by NWP.” 77 Fed. Reg. 10287.

B. The Corps Cannot Verify part of the Line 78 Pipeline under Nationwide Permit 12

Enbridge's applications to the Corps makes clear that it is attempting to seek verification of some segments of the project under NWP 12, while seeking an individual §404 permit for other segments:

Enbridge is requesting a Clean Water Act (CWA) Nationwide Permit 12 (NWP 12) Authorization and a Preliminary Jurisdictional Determination (PJD) from the U.S. Army Corps of Engineers (USACE), Chicago District for this Project in Indiana. These requests are specific to an approximate 4.1-mile section of the Project in Lake County, Indiana (MP 75.7 to MP 79.8). This supplemental report and accompanying plans and documents provide USACE-required filing materials for the NWP 12 Authorization and PJD review processes.

Enbridge has submitted a request for a Section 404 Individual Permit, Section 10 Permit, and PDJ to the USACE Chicago District for a 33.5-mile section (MP 35.5 to MP 39.6 and MP 46.3 to MP 75.7) of the pipeline and related activities proposed in Will and Cook County, Illinois. In addition, Enbridge is concurrently submitting a request for NWP 12 authorization to the USACE Rock Island District for a 42.0-mile section of the Project in Livingston, Grundy, and Kankakee Counties, Illinois (MP 0.16 to MP 35.5 and MP 39.6 to MP 46.3).

Indiana §404 Application, at 1.

Enbridge will be submitting a request for Section 404 Nationwide Permit 12 (NWP 12) authorization and PDJ to the USACE, Rock Island District for a 42.0-mile section of the Project in Livingston, Grundy, and Kankakee Counties, Illinois (MP 0.16 to MP 35.5 and MP 39.6 to MP 46.3). In addition, Enbridge will submit a similar request to the USACE, Chicago District for a 4.1-mile section of the Project in Lake County, Indiana (MP 75.7 to MP 79.8).

Illinois §404 Application, at 2.

This approach is inconstant with, and a clear violation of, Corps' regulations governing the use of nationwide permits, which state:

(d) Combining nationwide permits with individual permits. Subject to the following qualifications, portions of a larger project may proceed under the authority of the NWPs while the DE evaluates an individual permit application for other portions of the same project, but only if the portions of the project qualifying for NWP authorization would have independent utility and are able to function or meet their purpose independent of the total project. When the functioning or usefulness of a portion of the total project qualifying for an NWP is dependent on the remainder of the project, such that its construction and use would not be fully justified even

if the Corps were to deny the individual permit, the NWP does not apply and all portions of the project must be evaluated as part of the individual permit process.

33 C.F.R. § 330.6.

Here, none of the individual portions of Line 78 would have independent utility, and thus 33 C.F.R. § 330.6 requires that the entire pipeline be analyzed as part of the individual permit process. Line 78 involves the construction of a new pipeline. Every linear foot of the project is required in order for the project to serve its purpose, which is to transport oil from Pontiac, Illinois, to Griffith, Indiana. The parts of the pipeline being considered under NWP 12 would not have independent utility and would not be able to function or meet its purpose independent of the total Line 78 project. The justification for the different parts of the project being evaluated separately appears to be solely based on the Corps districts' political boundaries rather than any logical termini of the pipeline.

In a letter to the Corps dated March 27, 2014, the Fish and Wildlife Service agreed that the entire Line 78 pipeline should be considered in a single environmental review:

Please note, however, that the Service considers the entire project to be a single and complete project, as referred to in U.S. Army Corps of Engineers regulations at 33 C.F.R. § 325.1(d)(2), and suggests that all proposed activities associated with the Line 78 project should be treated as such.

However, even if the Corps regulations permitted it to analyze the different parts of the project using both the nationwide and individual §404 permitting mechanisms, which they do not, the Corps' Chicago District Office would still be required to analyze the impacts of the entire pipeline, including the western half that would be verified under NWP 12:

When a portion of a larger project is authorized to proceed under an NWP, it is with the understanding that its construction will in no way prejudice the decision on the individual permit for the rest of the project. Furthermore, the individual permit documentation must include an analysis of the impacts of the entire project, including related activities authorized by NWP.

33 C.F.R. § 330.6.

The Corps' Notice violates this provision, as it ignores the parts of the project being evaluated under NWP 12 and assumes that the other district offices will analyze those parts in a separate regulatory process.

C. The Corps Must Choose the Least Damaging Practicable Alternative

The Corp's must consider alternative pipeline routes and choose the least damaging practicable alternative. 40 C.F.R. § 230.10(a). The proposed 79.6-mile crude oil pipeline route spans through Illinois and Indiana and runs adjacent to sensitive ecological areas including Illinois Department of Natural Resources Kankakee River State Park, the Forest Preserve District of Will County Huyck's Grove Preserve, and the Sauk Trail Wetland Mitigation Bank. The route also will impact wetlands in Illinois' Will and Cook counties and in Indiana's Lake County. The Corps' Rock Island District has not yet noticed the application for the western portion of the project through Livingston, Grundy and Kankakee counties so the extent of ecologically sensitive areas that the pipeline will impact is unknown and also must be evaluated in conjunction with sensitive ecosystems within the Corps' Chicago District jurisdiction.

In light of the possible risks and hazards associated with construction and operation of a crude oil pipeline, including the known risks of tar sands crude spills, the Corps must evaluate a range of alternative routes including routes that do not run adjacent to sensitive ecological areas such as wetlands and other aquatic ecosystems, park, and forest lands, and choose the route that will cause the least amount of damage to the environment. Indeed, a pipeline spill in one of these sensitive aquatic areas can cause devastating, long-term impacts as evidenced by the ongoing clean-up of the Kalamazoo River tar sands crude pipeline spill described in more detail below.

Moreover, the law presumes that a less environmentally damaging practicable alternative exists when the project is not water dependent, and requires Enbridge to clearly demonstrate that practicable alternatives, which would not involve discharge of fill material into special aquatic sites, are not available. 40 C.F.R. § 230.10(a)(3). The proposed Line 78 pipeline is not "water dependent," and thus does not need to be routed adjacent to, in or under sensitive aquatic and wetland ecosystems as proposed. The "Public Notice" does not indicate that any analysis of routes that avoid aquatic ecosystems was completed. Thus, the Corps must evaluate that and other alternatives.

The "Public Notice Application For Permit" does not describe any practical alternatives and the extent of possible damages for each of those alternatives. Although a "Fact Sheet for Antidegradation Assessment" for Will and Cook Counties, issued by IEPA, indicates that some alternative routes were considered within these counties only, the fact sheet provides no description of the specific impacts of the alternative routes or a comparison of those impacts. In addition, the "Supplemental Information" attached to the "Joint Application Form" for the Chicago District fails to describe impacts on aquatic ecosystems of any of the four alternative routes or whether and how those alternatives would avoid sensitive aquatic ecosystems. See Joint Application Form Supplemental Information – Chicago District, Indiana at 5-7. Indeed the limited information in the Supplemental Information and the Illinois EPA fact sheet does not meet the Corps' legal obligations to ensure the least damaging practicable alternative that avoids the destruction of wetlands.

Moreover, there is no indication that the Corps considered non-pipeline alternatives and alternatives that do not involve discharge of dredged or fill material into waters of the United States. Such alternatives could include generation of equivalent quantities of cleaner non-fossil fuel based fuels. The Corps must fulfill its duty to evaluate and choose the least damaging alternative to ensure that the adverse impacts of the pipeline's construction and operation are avoided. The Corps also must verify information supplied by Enbridge in its evaluation of the proposed project impacts.

D. The proposed pipeline must avoid destruction of wetlands to the extent practicable.

Corps regulations require that the Corps, in evaluating a proposed project and issuing section 404 dredge and fill permits, avoid destruction of wetlands to the extent practicable. 33 C.F.R. § 320.4(r). As further guidance, the Corps' 404(b)(1) guidelines state that a 404 permit should only be issued if the applicant takes "all appropriate and practicable steps to avoid and minimize adverse impacts to waters of the United States." 40 C.F.R. § 230.91(c)(2). The Corps' Nationwide Permit 12 regulation additionally defines "loss of waters of the United States" as waters that are "permanently adversely affected by filling, flooding, excavation, or drainage because of the regulated activity. Permanent adverse effects include permanent discharges or fill material that ... change the use of a waterbody." 77 Fed. Reg. 10289. Accordingly, the Corps must ensure that Enbridge avoids destruction of wetlands and any other adverse impacts to these sensitive aquatic ecosystems.

According to the applicant, the proposed Line 78 crude oil pipeline would intersect approximately 40 acres of wetlands in Cook, Will and Lake counties and cause both temporary and permanent impacts to these sensitive and critical ecosystems. The Corps must verify this information and evaluate the scope of impacts, both size and extent to determine whether there are permanent impacts along the proposed pipeline's route that have not yet been disclosed, whether conversion of forested and scrub shrub wetlands to emergent wetlands will result in a loss of wetland function and/or a change of use of the waterbody, which indeed constitute significant adverse impacts.

Although the Corps does not consider conversion of wetland type a permanent loss of waters of the United States even if that conversion results in the permanent loss of certain functions, which would require compensatory mitigation, NWP 12 Decision Document at 6-46, this position does not allow the Corps to avoid evaluating the adverse impacts of wetland conversion, and resulting loss of wetland function. It is the commenters' position that any deforestation of wetlands or other conversion of wetlands is a loss of waters, and the Corps' policy effectively permits projects that will permanently deforest unlimited acreage of high-quality forested wetlands. Indeed, such impacts, including loss of certain wetland functions, must not go unanalyzed.

Further, as set forth above, because the proposed project is not "water dependent," the Corps must evaluate alternatives that do not impact these sensitive aquatic ecosystems and that seek to avoid wetland destruction all together.



The Corps also must evaluate the cumulative impacts to wetlands along the full pipeline route, including the cumulative impacts of the permanent removal of wetlands along the pipeline route and right of way, and the conversion of high-quality forested wetlands and scrub shrub wetlands to emergent wetlands. The Corps must identify the cumulative loss of wetland function resulting from the proposed project at a site specific, watershed and regional scale. To date, the Corps' has not released information about the portion of the proposed pipeline that will run through the Rock Island District's jurisdiction. However, the impacts to wetlands in that region must be evaluated in conjunction with the impacts to wetlands within the Corps' Chicago District.

E. The proposed project must not cause or contribute to water quality degradations

The Corp's own guidelines state that "[n]o discharge of dredged or fill material shall be permitted if it: (1) Causes or contributes ... to violations of any applicable State water quality standard." 40 C.F.R. § 230.10(b)(1). The proposed project will affect the Kankakee River, a biologically significant stream, and other waterbodies and tributaries, including the North Branch Rock Creek, Black Walnut Creek, Terry Creek, other unnamed tributaries, Dyer Ditch and Hart Ditch. For Will and Cook Counties alone, the project will cross 10 perennial and 13 intermittent waterbodies, and one stormwater pond. Construction and operation of the project will increase pollutant loads to these waterbodies. Accordingly, the Corps must evaluate whether discharges from the proposed project will violate state water quality standards and lead to degradation of these waterbodies. See below for more detail about state specific water quality standards and implications on the proposed project.

F. The proposed project must not cause or contribute to degradation of the environment

The Corps must not permit the proposed project if it causes or contributes to degradation of the environment. 40 C.F.R. § 230.10. In addition to aquatic and wetland resources, the Corps must evaluate the project's impacts, during construction and operation, to other environmental values, including wildlife and air quality, among others. This analysis must include evaluation of whether the proposed project jeopardizes the continued existence of species listed as endangered or threatened under the Endangered Species Act. 40 C.F.R. § 230.10(b)(3), and the impacts of oil spills and leaks, which are a known risk associated with the construction and operation of oil pipelines. As described in detail below, the Kalamazoo River tar sands crude spill has caused long-term adverse impacts on the entire river system and has been very costly and difficult to clean up.

G. The Corps must take all appropriate steps to minimize potential adverse impacts of the proposed project

In addition to determining whether there are less damaging alternatives routes or activities to the propose pipeline project, the Corps also must take all appropriate steps to minimize the project's adverse impacts. 40 C.F.R. § 230.10. Based on the Chicago District's notice, Enbridge intends to purchase acreage credits elsewhere in Cook County for approximately 2 acres of the more than 25 acres adversely impacted in that region, and it does not intend to mitigate the permanent wetland conversion that will occur in Lake County. However, Enbridge must provide explanation of mitigation or avoidance of temporary and permanent impacts on the project's full acreage, not just that which falls within the Chicago district. Enbridge also must discuss mitigation and/or avoidance of other environmental impacts of the project throughout the Project's full acreage. Neither the Public Notice or Application's Supplemental Information to the Chicago District provides this detail. The Corps must first evaluate the comprehensive environmental impacts of the proposed project and require avoidance and mitigation measures for all potential impacts, and allow for public participation on the impacts and proposed avoidance and mitigation plans.

H. The Corps must independently verify all information provided by Enbridge

The Clean Water Act requires that the Corps independently evaluate and verify the information supplied by the applicant in determining whether to issue a section 404 permit. 40 C.F.R. § 1506.5(b). When information for an EA is prepared by the applicant, "the district engineer is responsible for independent verification and use of the data, evaluation of the environmental issues, and for the scope and content of the EA." *Friends of the Earth v. Hintz*, 800 F.2d 822, 835 (9th Cir. 1986).<sup>5</sup> Thus, "while the Corps could, and did, base its permit decision exclusively on the information provided by [the applicant], the Corps nonetheless has an obligation to independently verify the information supplied to it." *Id.*; and see *Van Antwerp*, 526 F.3d at 1368 (Kravitch, J, concurring part and dissenting in part) ("when information submitted by an interested party is 'specifically and credibly challenged as inaccurate, the Corps has an independent duty to investigate.'" (citing *Van Abbema v. Fornell*, 807 F.2d 633, 642 (7th Cir. 1986) and *Greater Yellowstone Coalition*, 359 F.3d at 1269).

As such, the Corps must not take Enbridge's analysis of impacts and possible alternatives at face value. The Corps must independently determine the scope and extent of impacts to aquatic ecosystems and the environment, and determine whether there are any other less damaging alternatives to the proposed pipeline.

For example, the Corps should verify all information supplied by Enbridge concerning the risks of oil spills and Enbridge's ability to respond to a worst case discharge of heavy oil. On December 23, 2013, The U.S. Environmental Protection

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<sup>5</sup> *Hintz*, 800 F.2d at 831 cited 33 C.F.R. Part 230 as the source of the independent verification requirement; however the correct current cite for that requirement is 33 C.F.R. Part 325.

Agency (“EPA”) submitted comments objecting to the Corps’ EA for the Mississippi River crossing of Enbridge’s Flanagan South tar sands pipeline project, arguing that the EA was too narrow in a number of respects.<sup>6</sup> The EPA argued that the EA’s analysis of oil spills and Enbridge’s response capabilities were insufficient and vague. Ex. A at 3-4. The EPA argued that the Corps should have discussed the crucial lessons learned from Enbridge’s 2010 spill of heavy crude oil into the Kalamazoo River in Michigan (*See* pages 19-29, *infra*) and required special prevention, protection, and mitigation measures to ensure that such an accident does not occur in the sensitive areas that Flanagan South would cross, including the Upper Mississippi River System, a “nationally significant ecosystem and nationally significant commercial navigation system.” *Id.* at 3. EPA specifically recommended “commissioning an independent engineering analysis to review Enbridge’s risks assessment of the potential impacts from oil discharges to surface and groundwater resources along the entire route....”<sup>7</sup>

Similarly here, the Corps should commission an independent engineering analysis to verify Enbridge’ information about the risks of oil spills and its ability to respond to a worst-case discharge of heavy oil into waterways. It must also demonstrate to the public that it has completed this independent analysis to ensure meaningful public participation. 33 U.S.C. § 1344(a).

#### **IV. The Corps Must Analyze the Direct, Indirect, and Cumulative Impacts of the Entire Line 78 Pipeline Pursuant to the National Environmental Policy Act**

##### **A. Legal background**

NEPA is our “basic national charter” for environmental protection. 40 C.F.R. § 1500.1. Among the statute’s goals are to “insure that environmental information is available to public officials and citizens before decisions are made and actions are taken,” and to “help public officials make decisions that are based on [an] understanding of environmental consequences, and take actions that protect, restore, and enhance the environment.” *Id.* § 1500.1(b)-(c).

To achieve these objectives, NEPA requires all agencies of the federal government to prepare an EIS for all “major Federal actions significantly affecting the quality of the human environment.” 42 U.S.C. § 4332(2)(C). According to regulations promulgated by the Council on Environmental Quality (“CEQ”), an agency created by Congress to implement NEPA, the term “major Federal action” includes “actions with

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<sup>6</sup> EPA Flanagan South comments, attached as Ex. A.

<sup>7</sup> EPA also recommended placing “mainline valves along the route and installing leak detection equipment”; requiring a “network of sentinel or monitoring wells along the entire length of the pipeline, especially in sensitive or ecologically important areas... to provide a practical means for early detection of leaks...”; requiring that the emergency response plans address submerged oil and require “pre-positioned response assets”; and allowing an opportunity for public review and comment on these issues. *Id.* at 3-4.

effects that may be major and which are potentially subject to Federal control and responsibility.” 40 C.F.R. § 1508.18.

Major federal actions include “new and continuing activities, including projects and programs entirely or partly financed, assisted, conducted, regulated, or approved by federal agencies,” 40 C.F.R. § 1508.18(a), and “[a]pproval of specific projects, such as construction or management activities located in a defined geographic area. Projects include actions approved by permit or other regulatory decision as well as federal and federally assisted activities.” 40 C.F.R. § 1508.18(b)(4). “Major reinforces but does not have a meaning independent of significantly.” 40 C.F.R. § 1508.18.

The EIS must describe, among other things: (1) the environmental impact of the proposed action, and (2) any adverse environmental effects that cannot be avoided should the proposal be implemented. *Id.* § 4332(2)(C)(i), (ii).30. CEQ regulations require that a “lead agency” supervise the NEPA analysis. Lead agencies are selected according to the following factors, among others: (1) the magnitude of the agency’s involvement; (2) the agency’s project approval/disapproval authority; (3) the agency’s expertise concerning the action’s environmental effects; (4) the duration of the agency’s involvement; and the (5) the sequence of the agency’s involvement. 40 C.F.R. § 1501.5(c).

To determine whether a proposed action significantly affects the environment, and whether an EIS is required, the lead federal agency may first prepare an environmental assessment. 40 C.F.R. § 1508.9. An environmental assessment must provide sufficient evidence and analysis to determine whether to prepare an EIS. *Id.* The lead agency must take a ‘hard look’ at the relevant environmental concerns and alternatives to the proposed action. *Id.*

If the agency concludes in an environmental assessment that a project may have significant impacts on the environment, then an EIS must be prepared. 40 C.F.R. § 1501.4. To determine whether a proposed action may significantly affect the environment, the agency must consider both the context and intensity of the proposed action, including whether the project will take place in “ecologically critical areas,” and whether the project will affect endangered species. 40 C.F.R. § 1508.27 (a) & (b).

NEPA also mandates that the lead agency consider “the degree to which the action is related to other actions . . . with cumulatively significant impacts . . .” 40 C.F.R. § 1508.27(b)(7). NEPA defines “cumulative impact” to mean “the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions.” 40 C.F.R. § 1508.7. A federal action will significantly affect the environment “if it is reasonable to anticipate a cumulatively significant impact on the environment. Significance cannot be avoided by terming an action temporary or by breaking it down into small component parts.” 40 C.F.R. § 1508.27(b)(7). NEPA requires that a reviewing agency consider in the same EIS any “connected” actions, including actions that are “interdependent parts of a larger

action” and “depend on the larger action for their justification.” 40 C.F.R. § 1508.25(a)(1)(iii).

If an environmental assessment concludes that there are no potentially significant impacts to the environment, the federal agency must provide a detailed statement of reasons why the project’s impacts are insignificant and issue a finding of no significant impact (“FONSI”). 40 C.F.R. § 1508.13. If the agency issues an environmental assessment and FONSI, it must make a convincing case for a finding of no significant impact on the environment.

The CEQ regulations require a give and take between an agency and members of the public. See 40 C.F.R. §§ 1500.1(b) (2010) (“public scrutiny [is] essential”), 1500.2(d) (2010) (the agency must “encourage and facilitate public involvement”), 1506.6 (2010) (the agency must “[m]ake diligent efforts to involve the public” in preparing environmental documents, give “public notice of . . . the availability of environmental documents so as to inform those persons . . . who may be interested or affected,” and “solicit appropriate information from the public.”). CEQ regulations require federal agencies to give the public as much information as is practicable, so that the public has a sufficient basis to address those areas that the agency must consider in preparing the environmental assessment. 40 C.F.R. § 1501.4 (2010).

**B. Line 78 is a major federal action triggering NEPA**

The Corps’ issuance of a dredge and fill permit for the Enbridge Line 78 pipeline pursuant to Section 404 of the Clean Water Act is a major federal action that requires compliance with the National Environmental Policy Act. *See, e.g., Stop The Pipeline v. White*, 233 F. Supp. 2d 957 (S.D. Ohio 2002) (Corps prepared NEPA analysis for individual 404 permit for an 149-mile petroleum pipeline); *Hammond v. Kempthorne*, 448 F. Supp. 2d 114 (D.D.C. 2006) (BLM prepared EIS for the Williams oil pipeline project); *Spiller v. Walker*, A-98-CA-255-SS, 2002 WL 1609722 (W.D. Tex. July 19, 2002) aff’d sub nom. *Spiller v. White*, 352 F.3d 235 (5th Cir. 2003) (Corps’ permitting of an oil pipeline was a major federal action); *Wilderness Soc. v. Morton*, 479 F.2d 842 (D.C. Cir. 1973) (DOI prepared EIS for trans-Alaska oil pipeline requiring ROWs and special land use permits over federal land).

**C. The Corps must analyze all cumulative and connected projects**

The Corps must analyze the entire Line 78 pipeline, including all connected and cumulative actions as well as all cumulative impacts, in a single NEPA document. However, the Corps’ Notice appears to separate the project into two sections for purposes of analyzing its impacts. It states:

Enbridge Energy is proposing to construct a 79.6 mile crude oil pipeline in Illinois and Indiana, referred to as Line 78 to meet demand. This notice is for the approximately eastern 37.6 mile portion of the project that is located within the Army Corps of Engineers Chicago District in Will,

Cook and Lake Counties. The Army Corps Rock Island District will review the western portion of the project in Livingston, Grundy and Kankakee Counties.

If indeed the Corps is proposing to segment the proposed pipeline into two parts, with the two Corps district offices each conducting a separate NEPA analysis, that would constitute a violation of NEPA as discussed herein (as well as a violation of CWA §404, as discussed above).

NEPA requires federal agencies to analyze a project and all of its connected, cumulative, and similar actions together in a single EIS before the project is allowed to proceed. 40 C.F.R. § 1508.25(a). Connected actions are defined as actions that: “(ii) *Cannot or will not proceed unless other actions are taken previously or simultaneously;* or (iii) *Are interdependent parts of a larger action and depend on the larger action for their justification.*” 40 C.F.R. § 1508.25 (a)(1) (emphasis added).

“The justification for the rule against segmentation is obvious: it ‘prevent[s] agencies from dividing one project into multiple individual actions each of which individually has an insignificant environmental impact, but which collectively have a substantial impact.’” *Delaware Riverkeeper*, at 17, (quoting *NRDC v. Hodel*, 865 F.2d 288, 297 (D.C. Cir. 1988)); *see also Taxpayers Watchdog, Inc. v. Stanley*, 819 F.2d 294, 298-99 (D.C. Cir. 1987) (the segmentation doctrine “was developed to insure that interrelated projects the overall effect of which is environmentally significant, not be fractionalized into smaller, less significant actions.”).

Courts have allowed individual components of pipelines and other linear projects to be analyzed in a separate NEPA document only if they would have “independent utility.” *Hammond*, 370 F. Supp. 2d at 244 (applying the independent utility test and holding that an entire 480-mile oil pipeline must be analyzed in a single NEPA document); *Coal. on Sensible Transp., Inc. v. Dole*, 826 F.2d 60, 69 (D.C. Cir. 1987) (applying the independent utility test to a highway project).

The D.C. Circuit recently issued its latest pipeline segmentation decision in *Delaware Riverkeeper Network v. FERC*, Case No. 13-1015, 2014 WL 2535225 (D.C. Cir. June 6, 2014). In *Delaware Riverkeeper*, the court held that the Federal Energy Regulatory Commission’s (FERC’s) Environmental Assessment (EA) for a 40-mile natural gas pipeline project called the Northeast Project violated NEPA by failing to include all connected actions pursuant to 40 C.F.R. § 1508.25(a). The court held that the Northeast Project was actually one of four “physically, functionally, and financially connected and interdependent” components that resulted in a complete overhaul of a 200-mile pipeline, and that FERC had improperly segmented its NEPA analysis. *Id.* at \*5.

The Corps must analyze all cumulative actions and cumulative effects of this pipeline, which includes an analysis of the entire Line 78 pipeline and all related projects in the region. NEPA contains several provisions requiring an analysis of cumulative effects or cumulative actions. *NRDC v. Hodel*, 865 F.2d 288, 297 (D.C. Cir. 1988)

(NEPA requires “agencies to consider the cumulative impacts of proposed actions.”). NEPA requires agencies to prepare EISs for “every ... major Federal action[ ] significantly affecting the quality of the human environment.” 42 U.S.C. § 4332(2)(C). If an agency is unsure whether a project’s impacts would be “significant” enough to require a full EIS, it can first prepare a less-detailed EA. 40 C.F.R. § 1508.9; *Dep't of Transp. v. Pub. Citizen*, 541 U.S. 752, 757 (2004). The term “significantly,” which is evaluated in an EA, is defined in parts as actions “with individually insignificant but cumulatively significant impacts. Significance exists if it is reasonable to anticipate a cumulatively significant impact on the environment.” 40 C.F.R. § 1508.27(b)(7).

No part of the Line 78 would have independent utility apart from the larger project. It appears that the Corps has arbitrarily divided the project into two parts, the western half within the Corps’ Rock Island District and the eastern half within the Corps Chicago District, for purposes of §404 permitting. There is no indication that either of these parts of the project could function on their own. They are each interdependent parts of the Line 78 Project, and thus they must be analyzed in a single NEPA document.

The EPA’s comments on the Flanagan South pipeline reinforce the need to analyze the entire Line 78 pipeline as a single connected action. There, the EPA argued:

We are concerned that this component of the larger FSP project is being evaluated outside the environmental context of the entire project. CEQ regulations at 40 CFR 1508.25 considers actions as connected if they: (i) automatically trigger other actions which may require environmental impact statements; (ii) cannot or will not proceed unless other actions are taken previously or simultaneously; (iii) are interdependent parts of a larger action and depend on the larger action for their justification. Without the remainder of the FSP project, this Federal action would not be necessary and would not proceed. We are unaware of any past or concurrent effort under NEPA to address the potential impacts of the entirety of the FSP project as it extends 593 miles across four states and crosses many surface waters, including the Mississippi River. Without addressing the cumulative impacts of all connected actions which are part of the entire project, within this or another NEPA compliance document, it is unclear how the Corps can reach a determination that significant impacts are not associated with this Federal action.

Ex. A at 2.

This rule against segmentation is echoed in the Corps’ own Clean Water Act regulations. In discussing the combined use of nationwide and individual permits for a single project, the regulations state:

[P]ortions of a larger project may proceed under the authority of the NWP while the DE evaluates an individual permit application for other portions of the same project, but only if the portions of the project qualifying for NWP authorization would have independent utility and are

able to function or meet their purpose independent of the total project. When the functioning or usefulness of a portion of the total project qualifying for an NWP is dependent on the remainder of the project, such that its construction and use would not be fully justified even if the Corps were to deny the individual permit, the NWP does not apply and all portions of the project must be evaluated as part of the individual permit process.

33 C.F.R. § 330.6. As explained at pages 4-6, *supra*, the Corps cannot evaluate the western half of the Line 78 under NPW 12 and the eastern half under an individual permit because neither component would have independent utility standing alone.

However, even if the Corps were allowed to analyze the two halves of the project using the two separate 404 permitting mechanisms, the Corps' Chicago District Office would still be required to analyze the impacts of the entire pipeline, including the western half that would be verified under NWP 12:

When a portion of a larger project is authorized to proceed under an NWP, it is with the understanding that its construction will in no way prejudice the decision on the individual permit for the rest of the project. Furthermore, the individual permit documentation must include an analysis of the impacts of the entire project, including related activities authorized by NWP.

33 C.F.R. § 330.6.

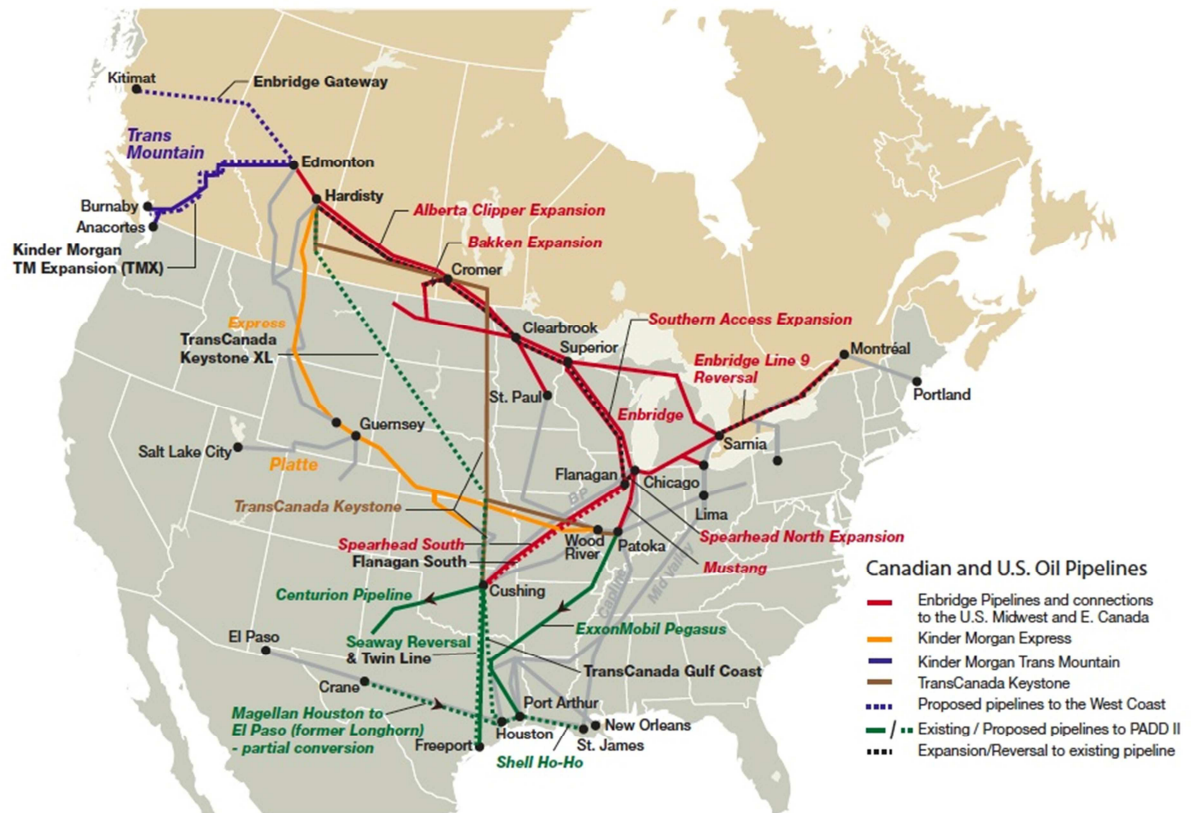
In addition to “connected actions” discussed above, the scope of a NEPA analysis must also include cumulative actions, “which when viewed with other proposed actions have cumulatively significant impacts and should therefore be discussed in the same impact statement.” 40 C.F.R. § 1508.25(a)(2). This requirement applies to EAs as well as EISs. *Delaware Riverkeeper*, at 17.

Cumulative effects, in turn, are defined as “the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.” 40 C.F.R. §1508.7. Thus, the obligation to consider cumulative effects is not limited to actions taken by a particular agency, nor actions that are “major federal actions” triggering NEPA. An agency is required by 40 C.F.R. §1508.7 to consider the cumulative effects of actions taken by other agencies, and in fact other actions not subject to NEPA at all. *See Grand Canyon Trust v. FAA*, 290 F.3d 339, 345 (D.C. Cir. 2002) (the FAA’s EA for an airport expansion had to analyze the cumulative increase in air traffic from other sources in the area).



Courts have articulated that “a meaningful cumulative impact analysis must identify (1) the area in which the effects of the proposed project will be felt; (2) the impacts that are expected in that area from the proposed project; (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.” *Delaware Riverkeeper*, at 27-28 (quoting *Grand Canyon Trust v. FAA*, 290 F.3d 339, 345 (D.C. Cir. 2002)).

As shown in the following diagram, Enbridge operates, is proposing, and is constructing a number of other pipeline projects in the region, including but not limited to Flanagan South, Line 62, Line 61, Alberta Clipper, and Line 3. The cumulative effects of these pipelines, as well as other companies’ pipelines, must be evaluated in a single NEPA analysis.



D. The stated purpose and need for Line 78 is insufficient

The stated purpose and need for the Line 78 pipeline is not supported by evidence. For example, Enbridge’s application to the Corps’ Indiana district office explains its purpose and need as follows:

Energy demand in the U.S. is forecast to grow for decades and petroleum will supply over 90 percent of the demand for transportation fuels. Demand for refined products as an energy source and for other purposes has grown steadily and will continue to grow in the Midwest, Gulf Coast, and throughout the U.S. as population grows and economic activity expands, despite energy conservation and efficiency measures and the development of alternative fuels.

Indiana 404 application, at 4.

However, the reality is that gasoline demand in the U.S. is declining, and has been in decline since about 2005.<sup>8</sup> This trend is largely due to increases in vehicle fuel efficiency and the imposition of more stringent fuel efficiency standards.<sup>9</sup> In addition, U.S. production of oil is on the rise for the first time since 1970.<sup>10</sup> In fact, in October 2013, the U.S. reached a major milestone, in that its domestic oil production levels surpassed oil imports for the first time in nearly two decades.<sup>11</sup>

Thus, the Corps' bald statements of steadily-growing domestic demand for oil is contradicted by a vast body of evidence showing flat demand and increased domestic production. Any NEPA and/or CWA 404 analysis must thoroughly explain the true purpose and need for Line 78, any practicable alternatives that might achieve the purpose and need, and include the data that it used to make those determinations.

E. The Corps must analyze all direct, indirect, and cumulative impacts associated with the construction and operation of Line 78

The Corps must analyze all direct, indirect, and cumulative impacts associated with the construction and operation of the Line 78. As acknowledged in the Corps' Notice, these impacts are not limited to environmental concerns, but include: "conservation, economics, aesthetics, general environmental concerns, wetlands, historic properties, fish and wildlife values, flood hazards, floodplain values, land use, navigation, shoreline erosion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food and fiber production, mineral needs, considerations of property ownership and, in general, the needs and welfare of the people." As such, the Corps cannot look at the project in a vacuum, but must look at the project as a whole and

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<sup>8</sup> See, e.g., <http://ourfiniteworld.com/2013/01/31/why-is-us-oil-consumption-lower-better-gasoline-mileage/>

<sup>9</sup> See Cambridge Energy Research Associates, <http://www.2cera.com/news/details/1,2318,9568,00.html>; International Energy Agency World Energy Outlook 2009 and 2010 and the Medium Term Oil and Gas Market Report 2010 and 2011; Deutsche Bank's Peak Oil Market Reports, available at [http://www.petrocapita.com/attachments/128\\_Deutsche%20Bank%20-%20The%20Peak%20Oil%20Market.pdf](http://www.petrocapita.com/attachments/128_Deutsche%20Bank%20-%20The%20Peak%20Oil%20Market.pdf) and <http://bioage.typepad.com/files/1223fm-05.pdf>;

<sup>10</sup> See Oil Change International, Exporting Energy Security: Keystone XL Exposed, September 2011, at 4, available at <http://priceofoil.org/2011/08/31/report-exporting-energy-security-keystone-xl-exposed/>.

<sup>11</sup> <http://www.foxbusiness.com/industries/2013/11/13/us-oil-output-exceeds-imports-in-major-milestone/>

discuss its impacts within the context of Enbridge's larger pipeline distribution network in the Midwest. *See, e.g., Grand Canyon Trust v. F.A.A.*, 290 F.3d 339, 346 (D.C. Cir. 2002) (an EA's cumulative effects analysis "must give a realistic evaluation of the total impacts and cannot isolate a proposed project, viewing it in a vacuum."). Some of the particular impacts that the Corps must evaluate include, but are not limited to, the following:

***1. The Corps must analyze the climate impacts of Line 78, including its cumulative climate impacts***

The Corps must analyze the climate impacts associated with the extraction, processing, transportation, refining, and end-use combustion of the conventional and heavy crude oil that will be transported by Line 78.

President Obama has committed to basing the decision on whether the similar Keystone XL pipeline would serve the national interest largely on whether it would significantly exacerbate the problem of climate pollution. A similar test should be used in deciding whether to approve Line 78. Climate change threatens the nation's communities with extended periods of heat, greater numbers of heavy downpours, more regional drought, increased wildfires in parts of the American West, permafrost thawing in Alaska, ocean acidification, and sea-level rise in coastal communities. Tar sands oil production generates almost triple the global warming pollution as conventional oil production because of the massive amounts of energy needed to extract, upgrade, and refine the oil.

Enbridge acknowledges that Line 78's purpose is to "expand Enbridge's capacity to transport growing supplies of crude oil produced in the Williston Basin region around North Dakota and light and heavy crude production in western Canada," the latter of which is commonly referred to as tar sands crude.<sup>12</sup> Line 78 would be capable of transporting 570,000 bpd of additional oil to refineries. If not for Line 78, this amount of oil would not be capable of being developed and transported to refineries. There is a causal connection between Line 78 and the greenhouse gas emissions associated with 570,000 bpd of heavy and light crude oil.

The EPA's comments on Enbridge's Flanagan South pipeline echoed the need for the Corps to analyze the climate impacts type of tar sands pipelines under NEPA and the CWA:

As this constitutes an impact related to, and a consequence of, operation of the pipeline and increase in petroleum transport to the Midwest and which, to our knowledge, has not been addressed under NEPA in any other document connected with this project, we recommend that the Corps estimate the lifecycle greenhouse gas emissions associated with petroleum source development, analyze the effect of this project on source petroleum production and consider measures to reduce GHG emissions. The EA

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<sup>12</sup> <http://www.enbridge.com/Line78PipelineProject.aspx>

states that the potential additional pipeline capacity of the FSP project is 880,000 bpd and the impacts associated with development, production, and combustion associated with this increase in petroleum product should be documented by the Corps. Such an analysis has been performed as part of NEPA compliance for the TransCanada Keystone Pipeline, LP's Keystone XL Project designed to transport 830,000 bpd [of] oil sands crude.

Ex. A at 2.

Therefore, the Corps must analyze the cumulative greenhouse gas emission that would result from the Corps' approval of Line 78, along with the other tar sands pipelines, particularly relating to the emissions from increased levels of tar sands production in Alberta that these pipelines would allow.

**2. *The Corps must analyze the risk of oil spills from Line 78, including worst-case scenario discharges and response capabilities***

Courts have repeatedly held that NEPA requires the Corps to analyze the risks of oil spills in issuing § 404 permits, including the risks and impacts of worst-case scenario discharges. *See Stop The Pipeline v. White*, 233 F. Supp. 2d 957, 969 (S.D. Ohio 2002) (finding that the Corps' EA for a pipeline 404 permit satisfied NEPA because the Corps consulted with the Office of Pipeline Safety and analyzed the risks of worst cases spills from an oil pipeline); *Sierra Club v. Sigler*, 695 F.2d 957, 969-75 (5th Cir. 1983) (In issuing a 404 permit for a dock expansion, the Corps failed to analyze the worst-case spill scenarios that could result from the increased oil tanker traffic allowed by the new dock); *Ocean Advocates v. U.S. Army Corps of Engineers*, 402 F.3d 846, 867 (9th Cir. 2005) (same).

The Corps must also analyze the impacts of spills pursuant to the Corps' § 404 regulations. For example, 40 C.F.R. § 230.10 (c) requires that "no discharge of dredged or fill material shall be permitted which will cause or contribute to significant degradation of the waters of the United States. Findings of significant degradation related to the proposed discharge shall be based upon appropriate factual determinations, evaluations, and tests..." *See also* section III, *supra*.

The EPA objected to the Corps' analysis of the spill impacts associated with the Flanagan South pipeline, and argued that the analysis of spill risks and impacts and Enbridge's response capabilities were insufficient and vague. Ex. A at 3-4. The EPA argued that the Corps should have discussed lessons learned from Enbridge's 2010 spill of heavy crude oil into the Kalamazoo River in Michigan and required special prevention, protection, and mitigation measures to ensure that such an accident does not occur in the sensitive areas that Flanagan South would cross, including the Upper Mississippi River System, a "nationally significant ecosystem and nationally significant commercial navigation system." *Id.* at 3. EPA recommended "commissioning an independent

engineering analysis to review Enbridge’s risks assessment of the potential impacts from oil discharges to surface and groundwater resources along the entire route as well as placing mainline valves along the route and installing leak detection equipment”; requiring a “network of sentinel or monitoring wells along the entire length of the pipeline, especially in sensitive or ecologically important areas... to provide a practical means for early detection of leaks...”; requiring that the emergency response plans address submerged oil and require “pre-positioned response assets”; and allowing an opportunity for public review and comment on these issues. *Id.* at 3-4.

Similarly here, the Corps must undergo a thorough analysis pursuant to Corps’ regulations and require special prevention, protection, and mitigation measures to ensure that such an accident does not occur in sensitive areas.

- a. The Corps must analyze the unique dangers of transporting heavy tar sands crude oil

Enbridge’s website states that Line 78 “will expand Enbridge’s capacity to transport growing supplies of crude oil produced in the Williston Basin region around North Dakota and light and heavy crude production in western Canada.”<sup>13</sup>

One of the greatest risks of Line 78 is that Enbridge will spill millions of gallons of heavy diluted bitumen (dilbit) and then fail to respond quickly and thoroughly, as it did in Kalamazoo, MI. Enbridge’s own troubling history, along with an inadequate regulatory structure, the extreme risks of transporting nearly impossible to clean-up diluted bitumen, and the oil industry’s history of major spill disasters all point to the serious risk this project presents.

The transportation of diluted bitumen, or dilbit, presents higher risks to communities, wildlife and natural resources than conventional crude. These risks, particularly the risks and impacts after a release of dilbit, differ substantially from conventional crude oil. Unlike conventional crude, tar sands oil is derived from sand that is impregnated with viscous, extra-heavy oil known as bitumen.<sup>14</sup> Bitumen is the valuable component of tar sands because it can be refined into liquid fuels.<sup>15</sup> In many ways, bitumen is as akin to coal as it is oil, a solid mass that cannot be pumped out of the

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<sup>13</sup>[http://www.enbridge.com/~/\\_media/www/Site%20Documents/Delivering%20Energy/Projects/US/ENB2013-Line78-L11.pdf](http://www.enbridge.com/~/_media/www/Site%20Documents/Delivering%20Energy/Projects/US/ENB2013-Line78-L11.pdf)

<sup>14</sup> Alberta Energy, *What is Oil Sands?*, <http://www.energy.alberta.ca/OilSands/793.asp> (last visited Jan. 28, 2013).

<sup>15</sup> CONGRESSIONAL RESEARCH SERVICE, OIL SANDS AND THE KEYSTONE XL PIPELINE: BACKGROUND AND SELECTED ENVIRONMENTAL ISSUES 2 (Jul. 16, 2012), *available at* <http://www.fas.org/sgp/crs/misc/R42611.pdf> (last visited Mar. 15, 2013).

ground under normal conditions.<sup>16</sup> For years, it was considered a junk fuel: too expensive, too dirty and too impractical to develop.<sup>17</sup>

Because it is so viscous and heavy, tar sands oil must be diluted with lighter hydrocarbons before it can be pumped through a pipeline (this is the derivation of term diluted bitumen).<sup>18</sup> In contrast, conventional crude is a liquid fuel source that flows readily. As Nancy Kinner, a civil and environmental engineering professor at the University of New Hampshire and co-director of the Coastal Response and Research Center who researches submerged oil has stated: “[O]ne would not consider tar sands typical crude oil...It’s not considered crude oil by most people who deal with oil and oil spills.”<sup>19</sup>

Most troublingly, the impacts of spills can be much greater than conventional crude, and effective clean-up methods simply do not yet exist, and may never exist.

Bitumen has a propensity to sink in water, attach itself to the bottom of waterbodies, and persist in the effected environment, polluting impacted areas indefinitely. For example, the State Department Final EIS for the Keystone XL pipeline notes that:

A notable difference between dilbit and other forms of crude is its capacity to precipitate out in water. After a period of several days in water, the diluent in dilbit will eventually volatilize into air or dissolve into water, leaving the heavy bitumen behind to sink or become suspended. This could occur with dilbit more so than with other forms of crude due to the higher percentage of heavy compounds present (Tsapraillis 2013).<sup>20</sup>

The State Department further acknowledges that unlike conventional crude, dilbit will not readily biodegrade, concluding that:

Dilbit...is largely comprised of branched hydrocarbon chains and heavy hydrocarbons, which are less readily biodegradable [than conventional crude]. A biodegradation study conducted by the USEPA in response to the 2010 Enbridge dilbit spill in the Kalamazoo River in Michigan concluded that only 25 percent of the residual hydrocarbons impacting the

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<sup>16</sup> THE PEMBINA INSTITUTE, OILSANDS, HEAVY CRUDES, AND THE EU FUEL-QUALITY DIRECTIVE 2 (Mar. 2012), available at <http://www.pembina.org/pub/2325>.

<sup>17</sup> Robert Kunzig, *The Canadian Oil Boom*, NATIONAL GEOGRAPHIC MAGAZINE, Mar. 2009, available at <http://ngm.nationalgeographic.com/2009/03/canadian-oil-sands/kunzig-text> (last visited Mar. 15, 2013).

<sup>18</sup> *About Tar Sands*, Oil Shale & Tar Sands Programmatic EIS, <http://ostseis.anl.gov/guide/tarsands/index.cfm> (last visited Jan. 22, 2013).

<sup>19</sup> Lisa Song, *A Dilbit Primer: How It's Different from Conventional Oil*, INSIDE CLIMATE NEWS, June 26, 2012 [hereinafter *A Dilbit Primer*], available at <http://insideclimatenews.org/news/20120626/dilbit-primer-diluted-bitumen-conventional-oil-tar-sands-Alberta-Kalamazoo-Keystone-XL-Enbridge>.

<sup>20</sup> Keystone XL FSEIS, 3.13-10.

river could be reasonably removed by natural attenuation (USEPA 2013).<sup>21</sup>

The FSEIS further finds that, “Due to the capacity for dilbit to precipitate out in water and its resistance to biodegradation, in the event of a release to a waterbody, more difficult cleanup scenarios (e.g., dredging) for dilbit may be expected than with other types of crude oil”<sup>22</sup> and that this sinking bitumen could be “a continual source of oil.”<sup>23</sup>

The State Department elaborates on the clean-up concerns regarding dilbit. The FSEIS concludes that, “The release of dilbit to a river or other aquatic environment introduces the potential for additional impacts and additional recovery challenges for responders of such an event to the environment.”<sup>24</sup> The FSEIS then describes the challenges presented by dilbit and the fact that how to handle these challenges is not fully understood:

As with some other types of oil, dilbit would not float on water indefinitely. The dilbit-specific characteristics, water temperature, and particulate load in the water could result in oil being submerged in the water column. Submerged oil could be suspended in the water column, suspended just above the river bed, or intermixed with sediment and trapped in the river bed and shoreline. In flowing waters, the spreading of the oil in three dimensions creates many challenges for responders to minimize the impacts of the release. Consideration of submerged oil in a flowing water environment would require to a certain extent different response action planning and response equipment to contain and recover the submerged oil. *Dilbit intermixed with sediment and trapped in the river bed and shoreline results in a persistent source of oil and has the potential to present additional response and recovery challenges. The understanding and adaptation of response and recovery techniques to dilbit spills in flowing water scenarios continues along the Kalamazoo River in response to the 2010 Enbridge release near Marshall, Michigan.*<sup>25</sup>

The persistence of long-term pollution from a spill is explicitly realized by the State Department:

*Dilbit intermixed with sediment could persist for years.* A biodegradation study conducted by the USEPA in response to the 2010 Enbridge dilbit spill in the Kalamazoo River in Michigan concluded that only 25 percent of the residual hydrocarbons impacting the river could be reasonably removed by natural attenuation (USEPA 2013).<sup>26</sup>

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<sup>21</sup> *Id.*

<sup>22</sup> *Id.*

<sup>23</sup> *Id.* at 3.13-3.

<sup>24</sup> *Id.* at 4.13-84.

<sup>25</sup> *Id.* at 4.13-88 (emphasis added).

<sup>26</sup> *Id.* at 4.13.-112 (emphasis added).

Both the immediate and long-term implications of a spill can be catastrophic. The State Department itself outlines the immense impacts to health from a tar sands spill and its long-term persistence in the environment. They include:

- Benzene toxicity, which is a known carcinogen and long-term exposure which can adversely affect bone marrow and cause anemia, leukemia, and possibly death.
- Long-term exposure to toluene, which may affect the nervous system or kidneys.
- Long-term exposure to ethylbenzene, which has been observed in animal studies to cause damage to the kidneys, inner ear, and hearing.
- Long-term exposure to xylene, which may cause impaired reaction time, impaired concentration and memory, and changes in the liver and kidneys.
- Long-term exposure to H<sub>2</sub>S, which may cause permanent or long-term effects including headaches, impaired attention span, impaired memory, or impaired motor function.
- Symptoms of long-term exposure to PAHs, which may include chronic bronchitis, chronic cough irritation, bronchogenic cancer, and dermatitis.<sup>27</sup>

Given the severe impacts that are already known or suspected, it is simply irresponsible to subject people, wildlife and communities to the risks of a major bitumen release where proper clean-up methods have not, and may not ever be, developed, and where the likelihood of long-term toxic persistence is high because bitumen does not readily break down over time.

- b. The lessons from the Kalamazoo River spill and disaster in Mayflower, AR demonstrate the extreme of a tar sands spill

The substantial and unacceptable risks of tar sands oil on the environment are have tragically been illustrated by two recent spills: the Kalamazoo River spill and the tar sands spill in Mayflower, Arkansas.<sup>28</sup> The July 2010 Kalamazoo River spill especially illustrates the immense and long-term damage that tar sands can do. It also serves a poster child for the complete inadequacy of current regulations and of relying on the company responsible for the disaster to prevent and respond to it.

On July 26, 2010, Enbridge reported that its 30-inch diameter 6B Pipeline had ruptured and released an estimated 840,000 gallons of crude oil (approximately 94 semi tanker trucks)<sup>29</sup> of diluted bitumen in a rural area about one mile south of Marshall, Michigan.<sup>30</sup> Investigation showed that the oil flowed into a culvert, which led to

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<sup>27</sup> *Id.* at 3.13-30.

<sup>28</sup> Environmental Protection Agency, Region V, *Pollution/Situation Report #166 8* (Oct. 29, 2012), available at [http://www.EPA.gov/enbridgespill/pdfs/sitreps/20121025\\_sitrep\\_166.pdf](http://www.EPA.gov/enbridgespill/pdfs/sitreps/20121025_sitrep_166.pdf).

<sup>29</sup> This number has varied some, with 840,000 gallons being at the low end.

<sup>30</sup> National Transportation Safety Board (NTSB), 2012, *Enbridge Incorporated Hazardous Liquid Pipeline Rupture and Release, Marshall, Michigan, July 25, 2010*, available at



Talmadge Creek, then followed the creek to the Kalamazoo River, ultimately contaminating about 30 to 35 miles of the River before it was contained. After the spill, the River flooded and stranded oil on floodplains, wetlands, backwaters, and islands. The spill threatened to flow all the way to Lake Michigan, which would have fouled many more miles of river, as well as the lake's shoreline.

In the Kalamazoo River, the heavy bitumen sank to the river bottom, coating wildlife, rocks and sediment.<sup>31</sup> At the time of the Kalamazoo spill, transparency regarding clean-up and response was critically lacking. Enbridge's CEO denied that the pipeline was even carrying tar sands oil.<sup>32</sup> As investigations began to reveal that the substance was indeed tar sands, the CEO finally admitted that the leak was tar sands oil.<sup>33</sup>

When the spill occurred, the heavy bitumen sank to the river bottom and the lighter chemicals used to dilute the bitumen evaporated.<sup>34</sup> Resulting toxic fumes forced local residents to flee from their homes and over 300 people suffered from immediate illness due to benzene exposure.<sup>35</sup> A report filed by the Michigan Department of Community Health found that nearly sixty percent of individuals living in the vicinity of the Kalamazoo River spill experienced respiratory, gastrointestinal, and neurological symptoms consistent with acute exposure to benzene and other petroleum related chemicals.<sup>36</sup> The long term consequences for these people who were exposed to benzene and other compounds contained in the diluted bitumen remain unknown. It took several weeks for officials to be informed that the spilled substance was diluted bitumen: up to that point they did not even know the name of the substance they were responding to because federal law does not require pipeline operators to reveal the specific contents of their pipelines and Enbridge did not initially volunteer this information.<sup>37</sup>

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<http://www.nts.gov/doclib/reports/2012/par1201.pdf>. Pipeline Accident Report NTSB/PAR-12/01, ("NTSB REPORT") at xii; U.S. House of Representatives, Committee on Transportation and Infrastructure, Staff Report for September 15, 2010, Hearing on Enbridge Pipeline Oil Spill in Marshall, Michigan, September 14, 2010 (House Staff Memo).

<sup>31</sup> NTSB REPORT; David Sassoon, *Crude, Dirty and Dangerous*, N.Y. Times (Aug. 20 2012), available at [http://www.nytimes.com/2012/08/21/opinion/the-dangers-of-diluted-bitumen-oil.html?\\_r=0](http://www.nytimes.com/2012/08/21/opinion/the-dangers-of-diluted-bitumen-oil.html?_r=0).

<sup>32</sup> Kari Lydersen, *Michigan Oil Spill Increases Concern Over Tar Sands Pipelines*, OnEarth (Aug. 6, 2010), <http://www.onearth.org/article/michigan-oil-spill-tar-sands-concerns>.

<sup>33</sup> Kari Lydersen, *Michigan Oil Spill: The Tar Sands Name Game (and Why It Matters)*, OnEarth (Aug. 12, 2010), <http://www.onearth.org/node/2410>.

<sup>34</sup> David Sassoon, *Crude, Dirty and Dangerous*, NEW YORK TIMES, August 20, 2012, available at [http://www.nytimes.com/2012/08/21/opinion/the-dangers-of-diluted-bitumen-oil.html?\\_r=1](http://www.nytimes.com/2012/08/21/opinion/the-dangers-of-diluted-bitumen-oil.html?_r=1).

<sup>35</sup> NTSB Press Release, *Pipeline Rupture and Oil Spill Accident Caused by Organizational Failures and Weak Regulations*, available at <http://www.nts.gov/news/2012/120710.html>.

<sup>36</sup> MARTHA STANBURY ET AL., ACUTE HEALTH EFFECTS OF THE ENBRIDGE OIL SPILL, LANSING, MI: MICHIGAN DEPARTMENT OF COMMUNITY HEALTH, November 2010, [http://www.michigan.gov/documents/mdch/enbridge\\_oil\\_spill\\_epi\\_report\\_with\\_cover\\_11\\_22\\_10\\_339101\\_7.pdf](http://www.michigan.gov/documents/mdch/enbridge_oil_spill_epi_report_with_cover_11_22_10_339101_7.pdf) (last visited Jan. 12, 2011).

<sup>37</sup> David Sassoon, *Crude, Dirty and Dangerous*, NEW YORK TIMES, August 20, 2012, available at [http://www.nytimes.com/2012/08/21/opinion/the-dangers-of-diluted-bitumen-oil.html?\\_r=1](http://www.nytimes.com/2012/08/21/opinion/the-dangers-of-diluted-bitumen-oil.html?_r=1).

The response to this diluted bitumen spill is far from complete, and may never be complete.<sup>38</sup> Enbridge recently disclosed that the cleanup costs have exceeded one billion dollars, making Kalamazoo by far the most expensive pipeline oil spill in U.S. history.<sup>39</sup> The response to the Kalamazoo River spill has required more than 2000 personnel, over 150,000 feet of boom, 175 heavy spill response trucks, forty-three boats, and forty-eight oil skimmers.<sup>40</sup> The river may never be restored.<sup>41</sup> Despite already spending eighteen times more than would be spent on a spill of conventional oil, cleanup crews are still working to remove residual oil from the riverbed and wetlands.<sup>42</sup> On October 3, 2012 EPA issued an order to Enbridge demanding that the company undertake additional efforts to continue to “remove and mitigate the effects of oil discharged.”<sup>43</sup> On March 14, 2013, EPA ordered dredging of the river to contain further contamination from lingering oil.<sup>44</sup> The response to this spill is likely to continue for many years. As reported in a New York *Times* piece the Kalamazoo spill, the “accident underscored not only how different dilbit is from conventional oil, but how unprepared we are for the impending flood of imports.”<sup>45</sup>

In the aftermath of the Kalamazoo Spill, the statements made by EPA give context to the above conclusions that dilbit presents vastly different challenges from conventional crude. For instance, EPA’s On-Site Spill Coordinator Mark Durno stated that, “The submerged oil is a real story –it’s a real eye-opener. ... In larger spills we’ve dealt with before, we haven’t seen nearly this footprint of submerged oil, if we’ve seen

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<sup>38</sup> Sandy Smith, EHS Today, *EPA: More Work Needed to Clean up Enbridge Oil Spill in Kalamazoo River* (Oct. 5, 2012), available at <http://ehstoday.com/environment/epa-more-work-needed-clean-enbridge-oil-spill-kalamazoo-river>.

<sup>39</sup> <http://desmog.ca/2013/08/26/official-price-enbridge-kalamazoo-spill-whopping-1-039-000-000>

<sup>40</sup> PLAINS JUSTICE, THE NORTHERN GREAT PLAINS AT RISK: OIL SPILL PLANNING DEFICIENCIES IN KEYSTONE PIPELINE SYSTEM 9 (Nov. 23, 2010), available at [http://plainsjustice.org/files/Keystone\\_XL/Keystone%20Pipeline%20Oil%20Spill%20Response%20Planning%20Report%202010-11-23%20FINAL.pdf](http://plainsjustice.org/files/Keystone_XL/Keystone%20Pipeline%20Oil%20Spill%20Response%20Planning%20Report%202010-11-23%20FINAL.pdf) (last visited Mar. 15, 2013).

<sup>41</sup> See, U.S. Environmental Protection Agency, Press Release, *EPA Orders Enbridge to Perform Additional Dredging to Remove Oil from Kalamazoo River*, Mar. 14, 2013, <http://yosemite.epa.gov/opa/admpress.nsf/0/19CDD21822F762CD85257B2E006ECBB9> (last visited Mar. 15, 2013).

<sup>42</sup> NATIONAL WILDLIFE FEDERATION, IMPORTING DISASTER, THE ANATOMY OF ENBRIDGE’S ONCE AND FUTURE OIL SPILLS 3 (2012), available at [http://www.nwf.org/~media/PDFs/Global-Warming/Reports/NWF\\_EnbridgeOilSpill\\_WEB\\_Final.ashx](http://www.nwf.org/~media/PDFs/Global-Warming/Reports/NWF_EnbridgeOilSpill_WEB_Final.ashx).

<sup>43</sup> EPA Region 5, In the Matter of Enbridge et. al., Order for Removal Under Section 311(c) of the Clean Water Act, Docket No: CWA (2012), available at <http://xa.yimg.com/kq/groups/468332/45287179/name/20121003-proposed-order-for-removal.pdf>.

<sup>44</sup> See U.S. Environmental Protection Agency, Press Release, *EPA Orders Enbridge to Perform Additional Dredging to Remove Oil from Kalamazoo River*, Mar. 14, 2013, <http://yosemite.epa.gov/opa/admpress.nsf/0/19CDD21822F762CD85257B2E006ECBB9> (last visited Mar. 15, 2013).

<sup>45</sup> David Sassoon, *Crude, Dirty and Dangerous*, NEW YORK TIMES, August 20, 2012, available at [http://www.nytimes.com/2012/08/21/opinion/the-dangers-of-diluted-bitumen-oil.html?\\_r=1](http://www.nytimes.com/2012/08/21/opinion/the-dangers-of-diluted-bitumen-oil.html?_r=1).

any at all.”<sup>46</sup> Similarly, Susan Hedman, EPA Region 5 Administrator, said in a press interview that, “Capturing and cleaning up this heavy oil is a unique challenge. No one at the EPA can remember dealing with this much submerged oil in a river.”<sup>47</sup> Ralph Dollhopf, EPA incident commander for Kalamazoo, stated that when Enbridge’s pipeline ruptured, the lighter part of the oil evaporated, “making the heavy mixture even more heavy as it moved down the creek and down the river; it had an increased tendency to sink... It’s the nature of the mixture of the oil that caused it to sink.”<sup>48</sup>

The tragic consequences of the Kalamazoo spill were detailed in a July 2012 report by the National Transportation Safety Board (NTSB). The NTSB report was highly critical of Enbridge, the pipeline operator, and the existing federal regulatory framework. The NTSB found that, “Pervasive organizational failures by a pipeline operator along with weak federal regulations led to a pipeline rupture and subsequent oil spill in 2010.”<sup>49</sup> The NTSB report shows precisely why allowing companies to be in charge of their own clean up is a recipe for disaster. Not only was the pipeline rupture not addressed for over seventeen hours, Enbridge’s operators twice pumped additional oil through the pipeline, constituting eighty-one percent of the total release.<sup>50</sup> In other words, the systems that were in place to prevent such a spill failed catastrophically.

The fact of the matter is that while Kalamazoo has taught us some lessons, the biggest lesson is that we are unprepared for a spill like Kalamazoo. There is still no indication that dilbit, which would be traveling along the Line 78 pipeline, can be effectively cleaned up, that Enbridge would prove any more adept or responsive to the emergency than it did in Kalamazoo, and there has been no change in the inadequate regulatory structure that in part allowed the Kalamazoo disaster to happen.

In fact, the EPA submitted comments objecting to the Corps’ EA for Enbridge’s Flanagan South tar sands pipeline on December 23, 2013. The EPA argued that the EA’s analysis of oil spills and Enbridge’s response capabilities were insufficient and vague. Ex. A at 3-4. The EPA argued that the Corps should have discussed lessons learned from Enbridge’s 2010 spill of heavy crude oil into the Kalamazoo River in Michigan and required special prevention, protection, and mitigation measures to ensure that such an accident does not occur in the sensitive areas that Flanagan South would cross, including the Upper Mississippi River System, a “nationally significant ecosystem and nationally significant commercial navigation system.” *Id.* at 3. For example, EPA recommended “commissioning an independent engineering analysis to review Enbridge’s risks assessment of the potential impacts from oil discharges to surface and groundwater

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<sup>46</sup> Kari Lydersen, OnEarth blog, July 25, 2011 <http://www.onearth.org/article/tar-sands-oil-plagues-a-michigan-community>

<sup>47</sup> *The American Independent*, July 20, 2011, Tar Sands Solutions Network, <http://tarsandsolutions.org/in-the-media/after-kalamazoo-river-oil-spill-heavy-metal-levels-rise>

<sup>48</sup> Blog on Stop Tar Sands Oil Pipelines, October 11, 2011 <http://stoptarsands.org/public-comment-submitted-u-s-national-interest-determination>; see also Fritz Klug, *The Kalamazoo Gazette*, July 24, 2011

[http://www.mlive.com/news/kalamazoo/index.ssf/2011/07/kalamazoo\\_river\\_oil\\_spill\\_resp.html](http://www.mlive.com/news/kalamazoo/index.ssf/2011/07/kalamazoo_river_oil_spill_resp.html)

<sup>49</sup> NTSB REPORT, *supra* note 27.

<sup>50</sup> *Id.* at xii.

resources along the entire route as well as placing mainline valves along the route and installing leak detection equipment”; requiring a “network of sentinel or monitoring wells along the entire length of the pipeline, especially in sensitive or ecologically important areas... to provide a practical means for early detection of leaks...”; requiring that the emergency response plans address submerged oil and require “pre-positioned response assets”; and allowing an opportunity for public review and comment on these issues. *Id.* at 3-4. The same analysis and mitigation measures should be required for Line 78.

c. The March 2013 Mayflower, Arkansas disaster

The Kalamazoo River is not the only major tar sands spill to plague an American community. On March 29, 2013, a pipe carrying dilbit ruptured in a small neighborhood in Mayflower, Arkansas, spilling approximately 210,000 gallons of dilbit through the streets, into nearby wetlands and streams and may have contaminated portions of Lake Conway,<sup>51</sup> one of the State’s most prized warm water fisheries. The pipeline is the Pegasus Pipeline owned by the ExxonMobil Pipeline Company.

As with the Michigan spill, there was some question at the time of the spill regarding whether or not it was bitumen that was spilled. It was not until April 10, 2013 that the company admitted in a letter that the material spilled was indeed bitumen.<sup>52</sup>

The incident has forced twenty-two families from their homes.<sup>53</sup> It has also caused numerous health problems. As detailed in a recent piece in the *New Republic*:

Ever since Exxon Mobil’s Pegasus pipeline burst in March and spilled an estimated 210,000 gallons of Canadian heavy crude oil two miles from [Jason Thompson’s] house, he’s had headaches of preternatural intensity, so bad they wake him up in the middle of the night. He has nosebleeds, and hemorrhoids even though he’s only 36; there’s a rash on his neck that has only gotten worse in the eight months since the spill; and some days he feels so weak that he can hardly get out of bed. He estimates that he has lost almost 35 pounds since the rupture, falling from a fit 220 down to

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<sup>51</sup> See Jacob Kauffman, *Tar Sands in Lake Conway*, KUAR Public Radio (Apr. 23, 2013), available at, [www. http://ualrpublicradio.org/post/tar-sands-oil-lake-conway](http://ualrpublicradio.org/post/tar-sands-oil-lake-conway). There is a dispute as to whether tests in the lake were adequate, as they focused on the water itself, rather than the bottom materials. Some have reported oil contamination in the lake. Indeed, the Arkansas Attorney General stated that because a cove of Lake was deemed contaminated, the lake was contaminated because “the cove is part of Lake Conway.” <http://insideclimatenews.org/news/20130410/cove-where-exxon-oil-has-been-found-part-lake-conway>.

<sup>52</sup> Letter from Richard E. Byrne, Exxon Mobil Corporation to Mr. Edwin Quinones, Esq., U.S. E.P.A. Region 6 (Apr. 10, 2013) (“ExxonMobil considers the oil released on March 29, 2013 to be conventionally produced Wabasca Heavy crude. ExxonMobil was advised today by the Government of Alberta’s Energy Resources Conservation Board that Canadian producers report their production of Wabasca Heavy as bitumen.”).

<sup>53</sup> E.g., Maria Gallucci, *Dilbit or Not? Wabasca Crude Is the Question*, Inside Climate News (Apr. 18, 2013), available at [www. http://insideclimatenews.org/news/20130418/dilbit-or-not-wabasca-crude-question](http://insideclimatenews.org/news/20130418/dilbit-or-not-wabasca-crude-question).

185. When he went to see a doctor in April, he was told he has a mysterious spot on one lung—but he hasn't been able to afford to go back.

Hundreds of people in this working-class town of 2,200 have complained of symptoms like Thompson's. And their maladies—respiratory disorders, nausea, fatigue, nosebleeds, bowel issues, throbbing headaches—echo the ones that appeared in Marshall, Michigan, where an Enbridge Energy pipeline burst in 2010. The two pipelines were carrying the same kind of oil: a heavy crude, or bitumen[.]<sup>54</sup>

As with the tragedy in Michigan, in Mayflower, the owner of the pipeline, Exxon, demonstrated it could not be trusted to protect the public. In a November 6, 2013 letter of probable violations sent to Exxon, PHMSA found nine probable violations by Exxon.<sup>55</sup> These probable violations make clear that a long-standing problem with a seam that caused the accident should have been apparent to Exxon for some time. PHMSA stated that:

The pipe manufacturing information, fracture toughness, and hydrostatic testing failure history of the Youngstown pre-1970 low frequency ERW pipe in the Patoka to Corsicana segments of the Pegasus Pipeline *provided more than adequate information for the pipe to be considered susceptible to seam failure*. Further, the operator did not present an acceptable engineering analysis to PHMSA to demonstrate that the pre-1970 ERW pipe in the Pegasus Pipeline was not susceptible to seam failure.<sup>56</sup>

The letter detailed basic safety procedures Exxon failed to follow, many of which concern oversight of the seam that failed.<sup>57</sup> These failures were long-standing. Testing from as far back as 1991 demonstrated the existence of the defect that eventually led to the spill twenty-four years later. Thus, the problem was left unaddressed by Exxon for almost a quarter century until the line burst. Additionally, there is speculation that pressure cycling, which is associated with transportation of dilbit, may have caused this long-standing defects in the pipe to finally rupture.<sup>58</sup>

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<sup>54</sup> Nora Caplan-Bricker, *This Is What Happens When a Pipeline Bursts in Your Town: Conflicted about Keystone? Consider the horrific impact of an oil spill in Arkansas*, New Republic (Nov. 18, 2013), available at, <http://www.newrepublic.com/article/115624/exxon-oil-spill-arkansas-2013-how-pipeline-burst-mayflower>.

<sup>55</sup> U.S. Dep't of Transportation, Pipeline and Hazardous Materials Safety Administration, Notice of Probable Violation and Proposed Compliance Order from R.M. Seely, Director, Southwest Region, Pipeline and Hazardous Materials Safety Administration to Mr. Gary W. Pruessing, President, ExxonMobil Pipeline Company, LLC (Nov. 6, 2013) at 2, available at, [http://phmsa.dot.gov/staticfiles/PHMSA/DownloadableFiles/Enforcement%20Notices/420135027\\_NOPV%20&%20PCO\\_11062013.pdf](http://phmsa.dot.gov/staticfiles/PHMSA/DownloadableFiles/Enforcement%20Notices/420135027_NOPV%20&%20PCO_11062013.pdf).

<sup>56</sup> *Id.* at 2 (emphasis added).

<sup>57</sup> See *id.*

<sup>58</sup> Elizabeth Douglas, *Experts say dilbit could have created pressure swings, hydrogen cracks in Pegasus rupture*, Arkansas Times (Sept. 12, 2013), available at,

Exxon may well have been betting the costs of dealing with a spill were less than the costs of taking measures to prevent one. As a result of these probable violations, Exxon incurred just a \$2.6 million fine from PHMSA for the incident, just .0003 percent of the company's \$7.8 billion profit in just the third quarter of 2013.<sup>59</sup>

Regardless, Mayflower, AR stands as yet another tragic example of what happens when pipeline companies shipping tar sands are trusted to police themselves.

- d. Inadequate measures are in place to protect the public from a spill of dilbit from Line 78

As detailed in the NTSB report, the current regulatory structure fails to account for the unique risks of transporting and responding to tar sands spills and to protect the public and the environment from diluted bitumen spill risks. There is simply not an adequate regulatory structure to deal with the extreme risks of dilbit.

The NTSB account of the Kalamazoo spill is sobering and identifies key failures in the regulation of the diluted bitumen pipeline that spilled. The NTSB cited “[i]nsufficient public awareness and education,” “weak regulation” and “ineffective oversight of pipeline integrity management programs, control center procedures, and public awareness” as factors in the Kalamazoo disaster.<sup>60</sup> The NTSB specifically found that the regulatory oversight for the pipeline was “inadequate.”<sup>61</sup> It also faulted “inadequate regulatory requirements for facility response plans,” the inadequacy of the “facility response plan to ensure adequate training of the first responders and sufficient emergency response resources allocated to respond,” and “inadequate review and approval of Enbridge’s facility response plan that failed to verify that the plan content was accurate and timely” for the spill.<sup>62</sup> The NTSB also concludes that it is “improbable that PHMSA would be able to perform an adequate review of facility response plans or enforce Federal requirements that pipeline operators identify and ensure that adequate response resources are available to respond to worst-case discharges.”<sup>63</sup> Put another way, PHMSA’s response resource regulations are unenforceable. The NTSB also found that, “[e]ssentially, the regulations allow the pipeline industry to dictate the requirements of an adequate spill response and to determine whether those requirements have been met.”<sup>64</sup> As a consequence, communities along the pipeline route can expect no greater amount of spill response resources from TransCanada than those that TransCanada, in its sole discretion, believes is due them.

The NTSB additionally found that PHMSA has only 1.5 full-time employees managing about 450 response plans, far fewer than either the Coast Guard or EPA which also have spill response responsibilities, despite the fact that it receives significantly

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<http://www.arktimes.com/arkansas/experts-say-dilbit-could-have-created-pressure-swings-hydrogen-cracks-in-pegasus-rupture/Content?oid=3037915&showFullText=true>.

<sup>59</sup> Caplan-Bricker, *supra*.

<sup>60</sup> NTSB REPORT, *supra* note 27, at xii.

<sup>61</sup> *Id.* at xiii.

<sup>62</sup> *Id.* at xiii-xiv.

<sup>63</sup> *Id.*

<sup>64</sup> *Id.* at 113.

greater funding from the Oil Spill Liability Trust Fund,<sup>65</sup> which, ironically, is not funded by dilbit shippers such as TransCanada.<sup>66</sup> It also found that PHMSA had approved Enbridge's Facility Response Plan (FRP) within two weeks of its receipt without comment and that only a "cursory" review of the plan could have been conducted within this time period.<sup>67</sup>

The NTSB Line 6b Report also found that PHMSA does "not perform on-site audits to verify the content and adequacy of plans before approving them. In contrast, both the Coast Guard and the EPA conduct on-site audits and plan reviews after the initial review and approval of the submitted plan."<sup>68</sup> Thus, PHMSA appears to do little more than bean count whether an FRP has all required parts, rubber stamp whatever pipeline companies' submit with no meaningful review process, and then ignore FRP's until the process repeats itself.

This weak and inadequate regulatory structure – which is not currently being addressed or revised by PHMSA – is essentially all that serves to protect the people and places that will be impacted by the Line 78 pipeline and a potentially major release of heavy crude oil.

### 3. *The Corps must analyze the impacts to endangered species*

The Corps' Notice of May 23, 2014 states: "the Corps has determined that the proposed activity may affect a Federally-listed endangered/threatened species or designated critical habitat. Consultation with the U.S. Fish and Wildlife Service pursuant to Section 7 of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 et seq.) has been initiated." As part of, or in addition to, the Corps' consultation pursuant to E.S.A section 7, the Corps, as the implementing agency, must analyze the project's impacts to endangered or threatened species in its NEPA analysis.

In a letter from the Fish and Wildlife Service (FWS) dated March 27, 2014, the FWS expressed concern that the project would impact species. The letter stated:

Your report concludes that the project will not adversely affect the sheepsnose mussel [*Plethobathus cyphus*]. At this time we cannot concur that the project would not adversely affect the sheepsnose mussel, due to the lack of a contingency plan for a frac-out (an inadvertent drilling fluid return), which could occur as a result of the proposed horizontal directional drilling (HDD) under the Kankakee River. During our January 21, 2014, online meeting, Mr. Shawn Cirton of my staff requested that such a plan be provided for our review; however, a contingency plan was not provided as part of the recent report. Our records show that the

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<sup>65</sup> *Id.*

<sup>66</sup> I.R.S. National Office Technical Memorandum 201120019 (Jan. 12, 2011) at 3 ("Accordingly, tar sands imported into the United States from Country by Company are not subject to the excise tax on petroleum imposed by § 4611.")

<sup>67</sup> NTSB REPORT, at 113.

<sup>68</sup> *Id.*

sheepnose mussel has been found near the area of the proposed crossing; therefore, the species could be adversely affected. We recommend that Enbridge develop a contingency plan similar to the one provided for the Flanagan South Pipeline Project (attached), to address our concerns about the HDD method and a possible frac-out.

FWS letter of March 27, 2014 (attached as Exhibit B), at 2.

The Corps must address these concerns in its NEPA analysis and analyze the potential for frac-out to occur, as well as other impacts to species. For example, the FWS also requested additional information about existing habitat for the Eastern massasauga (*Sistrurus catenatus*), a candidate for federal listing, along the pipeline route to determine whether the species could be adversely affected.

If FWS undergoes formal consultation, the Corps must prepare a NEPA analysis that analyzes the impacts associated with the project and any incidental take of species. *In re Consolidated Salmonid Cases*, 688 F. Supp. 2d 1013, 1025 (E.D. Cal 2010) held that the Bureau of Reclamation's (Reclamation) *implementation* of a biological opinion issued by the National Marine Fisheries Service (NMFS) was a major federal action pursuant to 40 C.F.R. § 1508.18. The court reasoned that because the ESA regulations gave Reclamation the discretion to determine "whether and in what manner to proceed with the action" in light of the Biological Opinion, its decision to move forward with the project and implement the BO was a major federal action triggering NEPA. *Id.* at 1022 (quoting 50 C.F.R. § 402.15(a)); *see also San Luis & Delta-Mendota Water Auth. v. Salazar*, 686 F. Supp. 2d 1026, 1049 (E.D. Cal. 2009) ("Reclamation's implementation of the BiOp is major federal action"); *Fund for Animals, Inc. v. Rice*, 85 F.3d 535, 546-47 (11th Cir. 1996) (Corps complied with NEPA in issuing a §404 permit for a landfill that required FWS to issue an ITS).

Following formal consultation, the agency requesting or initiating consultation must determine "whether and in what manner to proceed with the action in light of its section 7 obligations and the Service's biological opinion." 50 C.F.R. § 402.15(a). With respect to Line 78, that agency is the Corps.

#### **4. *The Corps must analyze on-the-ground impacts to wetlands and waterways (e.g., forested wetlands), and alternatives***

Construction of oil pipelines require the clearing of a 80-110 foot-wide right-of-way (ROW) through everything in the pipeline's path for its entire length, grading, trenching, installation of the pipe, backfilling, and then permanent maintenance of the ROW. That means that high quality wildlife habitat, forests, and wetlands are permanently removed and prohibited from returning to their natural states.

For example, the Corps' Decision Document for Nationwide Permit 12 states that "Forested wetlands will not be allowed to grow back in the utility line right-of-way so that the utility line will not be damaged and can be easily maintained," and that



“mechanized landclearing of a forested wetland in a utility line right-of-way may only result in a conversion of wetland type, and not result in permanent loss of waters of the United States”, and “[t]he conversion of a forested wetland to a scrub shrub wetland does not constitute a permanent loss of waters of the United States, and thus does not count towards the acreage limit, even though it may result in the permanent loss of certain functions, which may require compensatory mitigation.” NWP 12 Decision Document, at 6-46.

Regardless of whether the Corps considers the permanent removal of high-quality forested wetlands a “loss of waters of the United States,” the direct, indirect, and cumulative impacts of that practice must be considered in the Corps’ NEPA analysis.

There are a wide range of other on-the-ground impacts associated with pipeline construction. For example, the Indiana Application discusses some of these impacts beginning on page 8. The Corps’ NEPA analysis must thoroughly analyze these impacts, mitigation measures, and practicable alternatives.

##### **5. *The Corps must analyze the air and Water pollution from refining Line 78’s crude oil***

The Corps must also analyze and disclose the impacts that the Line 78 pipeline will have on air and water quality due to the refining of Western Canadian Sedimentary Basin (“WCSB”) tar sands and other crudes in receiving refineries, including but not limited to the BP Whiting refinery and other regional refineries.

Refining increasing amounts of heavy crude oils in the Midwest will cause negative air quality impacts, and will cause emissions of higher amounts of sulfur dioxide, metals, and organics pollution. Western Canadian heavy crudes have a higher sulfur content than is found in light to medium crude oils.

For example, tar sands bitumen contains 102 times more copper, 21 times more vanadium, 11 times more sulfur, six times more nitrogen, 11 times more nickel, and 5 times more lead than conventional heavy crude oil. These pollutants can cause acid rain, bioaccumulation of toxic chemicals in the food chain, the formation of ground-level ozone and smog, visibility impairment, and odor impacts.

Line 78 will also cause more emissions because tar sands diluted bitumen requires more energy to refine. Thus, to produce the same products, more fuel must be burned at fired sources at refineries and at offsite electric generating units. For example, diluted bitumen requires more heat for distillation in the crude unit. It also contains higher concentrations of catalyst contaminants than typical heavy crudes, which require more energy to remove. It is hydrogen-deficient compared to conventional crude and thus requires substantial hydrogen production and addition during refining, which again requires more energy. Diluted bitumen will also require additional coking capacity. All of these characteristics of diluted bitumen increase energy demand, which will in turn increase combustion emissions, including those from heaters and boilers.

Compared to many conventional heavy crudes, tar sands bitumen is heavier and dirtier, will require more energy to refine, and will contain more diluent if shipped via pipeline. As documented and referenced in the NRDC Issue Brief *Tar Sands Crude Oil: Health Effects of a Dirty and Destructive Fuel*,<sup>69</sup> these pollutants associated with the refining of tar sands have been tied to increased cancer risks, increased respiratory issues including asthma, cardiovascular illness, developmental delays, and other negative health effects. This adverse impact on air quality and public health is not in the national interest.

Line 78 will increase the likelihood of accidental releases at receiving refineries. Because tar sands diluted bitumen has different chemical properties than conventional heavy crude, it could create significant safety hazards at receiving refineries, which are not equipped handle the unique chemical composition of WCSB crudes without significant upgrades. Similar changes in crude slates caused the explosion at the Chevron refinery in Richmond, California, on August 6, 2012. That accident affected over 15,000 people from the surrounding area.

Line 78 will increase levels of polluted wastewater produced by the refineries. Wastewaters generated from processing tar sands crudes in refineries will contain higher concentrations of many pollutants, including metals, sulfur compounds, ammonia, chemical oxygen demand (COD), oil and grease, suspended solids, salts, benzene, phenols, and sulphides.

## **6. *Impacts to waterways from hydraulic fracturing***

Enbridge's application to the Indiana Corps office explains that it will use hydraulic fracturing wherever it uses the horizontal directional drilling (HDD) method, and thus that HDD poses to a threat to waterways under which it is used. That is because there is a risk that the fissures created by the fracturing will extend to the waterway and there will be an unintentional release of fracking fluid. This event is called a "frac-out."

For example, the Fish and Wildlife Service's letter of March 27, 2014 (Ex. B at page 2) expresses concern that Enbridge has not provided a contingency plan for a frac-out as it had provided for the Flanagan South pipeline, nor has it analyzed impacts of a frac-out to endangered species.

The Corps' NEPA and/or CWA 404 analysis must analyze the risks and potential impacts of a frac-out on all waterbodies that the pipeline crosses, including but not limited to, an analysis of the geologic structure of each water crossing, alternatives to that crossing and/or method, mitigation measures, and a contingency plan.

Enbridge's applications to the Corps' Indiana and Illinois district offices are currently silent on this issue.

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<sup>69</sup> Danielle Droitsch and Diane Bailey, *Tar Sands Crude Oil: Health Effects of a Dirty and Destructive Fuel*, NRDC, February 2014, <http://www.nrdc.org/energy/files/tar-sands-health-effects-IB.pdf>.

## V. Illinois Water Quality Concerns

### A. Will and Cook counties

In the Army Corp's Chicago District territory covering Will and Cook counties in Illinois, the proposed route for Line 78 will have "temporary impacts of approximately 25.5 acres of jurisdictional wetlands, 1.98 acres of permanently converted wetlands, and 0.70 acres of temporary stream impacts within the designated project area" (401 notice). The pipeline would run "through notable areas such as the Illinois Department of Natural Resources Kankakee River State Park, the Forest Preserve District of Will County Huyck's Grove Preserve, and the Sauk Trail Wetland Mitigation Bank" (404 notice). The pipeline will cross 10 perennial and 13 intermittent streams including the Kankakee River, North Branch Rock Creek, Black Walnut Creek, Terry Creek, Rayns Creek, Deer Creek, Rock Creek, North Creek, Deer Lake, Plum Creek. While direct impacts to number of streams are proposed to be avoided by the use of Horizontal Directional Drilling (HDD) (proposed for Deer Creek, North Creek, North Branch Rock Creek and the Kankakee River), at least 13 open cuts will be made across streams including Rayns Creek, Rock Creek, Black Walnut Creek, Terry Creek, Deer Lake, Plum Creek and Deer Creek.

"No mitigation is scheduled for temporarily impacted streams and wetlands." (401 notice). The only mitigation proposed is for 1.556 acres of forested wetland and 0.43 acres of scrub shrub wetland that will be permanently converted to emergent wetland. The purchase of 6.41 acres of wetland credits at the Sauk Trail Wetland Mitigation bank in Cook County is proposed for mitigation of the 1.988 acres of wetland conversion.

There are also concerns about the impacts of the proposed HDD. The USFWS has raised concerns about impacts of a frac-out from HDD under the Kankakee River on the federally endangered Sheepsnose mussel (*Plethobasus cyphus*) which has been found in this stretch of the river.<sup>70</sup> We note the section of the Kankakee River where the pipeline is proposed is listed as a biologically significant stream by the Illinois Department of Natural Resources (IDNR).<sup>71</sup> According to the IDNR, "Stream segments identified as biologically significant are unique resources in the state and the biological communities present must be protected at the stream reach, as well as upstream of the reach."<sup>72</sup>

### B. Kankakee, Livingston and Grudy counties, Illinois

From the materials available to us, it appears the Enbridge 78 pipeline would cross another biologically significant stream, the East Branch Mazon River, in Livingston

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<sup>70</sup> USFWS March 27, 2014 letter, attached as Exhibit B.

<sup>71</sup> See 401 notice and

<http://www.dnr.illinois.gov/conservation/BiologicalStreamratings/Documents/StreamRatingReportSept2008.pdf>.

<sup>72</sup> IDNR Biologically Significant Streams map, attached as Exhibit C.

County<sup>73</sup>. We are concerned about impacts to another of the best streams in the state of Illinois. We are not able to tell how Enbridge plans to construct the pipeline in this area but note that the Illinois EPA must public notice and also issue an individual 401 certification for the pipeline due to its impact on this high quality stream per 35 IAC 302.205(d)(6)<sup>74</sup>.

It also appears that no mitigation is proposed for temporary impacts to streams and wetlands due to the construction of the proposed pipeline in the territory governed by the Army Corps of Engineers' Rock Island District. Permanent conversion of 0.121 acres of forested wetland and 0.128 acres of scrub shrub wetland to emergent wetland will be mitigated at a ratio of 4.5:1 at the Sangamon River Corridor Reserve in Piatt County.

### C. Failure to Satisfy Illinois Antidegradation Rule

The proposed project fails to satisfy Illinois Antidegradation Rule<sup>75</sup> in that existing uses have not been protected. No mitigation has been provided for the loss of aquatic life functions due to the temporary losses of stream and wetland habitat during pipeline construction. Mitigation for permanent conversions of wetlands in Kankakee, Livingston and Grady counties is proposed to occur in Piatt County, at least 50 miles away from the region where the habitat losses will occur.

An individual 401 certification is also required for the portions of the proposed pipeline which fall under the jurisdiction of the Rock Island District (Kankakee, Livingston and Grady counties) per 35 IAC 302.205(d)(6) due to the crossing of a biologically significant stream.

In addition, as described above in section IV.D., the proposed pipeline poses a very serious risk of an oil spill which would violate state water quality standards and could cause irreparable harm to any of the rivers, streams, wetlands, natural and agricultural lands which the pipeline is proposed to cross.

## **Conclusion**

Thank you for the opportunity to comment on this matter. Line 78 would have significant environmental impacts to the Midwest and would pose a serious risk of heavy crude oil spills to communities and to waterways, and the Corps must evaluate these

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<sup>73</sup> *Id.*

<sup>74</sup> "Discharges permitted under a current general NPDES permit as provided by 415 ILCS 5/39(b) or a nationwide or regional CWA Section 404 permit are not subject to facility-specific antidegradation review; however, the Agency must assure that individual permits or certifications are required prior to all new pollutant loadings or hydrological modifications that necessitate a new, renewed or modified NPDES permit or CWA Section 401 certification that affects waters of particular biological significance. Waters of particular biological significance may include streams listed in a 1991 publication by the Illinois Department of Conservation entitled "Biologically Significant Illinois Streams".

<sup>75</sup> 35 IAC 302.205

impacts under the CWA and NEPA. We look forward to participating in a public hearing as requested herein, and to otherwise participate in this process as it moves forward.

If you have any questions about these comments, please contact me at 303-449-5595 ext. 100.

Respectfully submitted,

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