Keystone XL Pipeline Project: Key Issues

Paul W. Parfomak
Specialist in Energy and Infrastructure Policy

Robert Pirog
Specialist in Energy Economics

Linda Luther
Analyst in Environmental Policy

Adam Vann
Legislative Attorney

April 9, 2013
Summary

TransCanada’s proposed Keystone XL Pipeline would transport oil sands crude from Canada and crude produced in North Dakota and Montana to a market hub in Nebraska for further delivery to Gulf Coast refineries. The proposed pipeline would consist of 875 miles of 36-inch pipe with the capacity to transport 830,000 barrels per day. Because it would cross the Canadian-U.S. border, construction of Keystone XL requires a Presidential Permit from the State Department. A decision to issue or deny a Presidential Permit is based on a determination that a project would serve the national interest, considering potential impacts on the environment, the economy, energy security, foreign policy, and other factors. Environmental impacts are evaluated and documented in an Environmental Impact Statement (EIS) under the National Environmental Policy Act (NEPA).

TransCanada originally applied for a Presidential Permit for the Keystone XL Pipeline in 2008. The initial proposal included a southern segment from Oklahoma to the Gulf Coast. After a final EIS for the original project was released in August 2011, the State Department began a 90-day public review period to make its national interest determination. A key issue that arose during this review was concern over environmental impacts in the Sand Hills region of Nebraska. This concern led the Nebraska legislature to enact new state pipeline siting requirements that would alter the pipeline route through Nebraska. In January 2012, the State Department concluded that it would not have sufficient information to evaluate an altered pipeline route before a deadline imposed by Congress and denied the permit. The southern segment of the original Keystone XL proposal, now called the Gulf Coast Project, was subsequently separated from the original proposal because it did not require a Presidential Permit. It has been approved by the relevant states and is currently under construction.

In May 2012, TransCanada reapplied to the State Department for a Presidential Permit to build the northern, cross-border segment of Keystone XL. The new permit application initiated a new NEPA process. The governor of Nebraska approved a new route through the state avoiding the Sand Hills on January 22, 2013. On March 6, 2013, notice was published in the Federal Register that the State Department draft EIS for the reconfigured Keystone XL Project was available for public comment until April 22, 2013. Public comments must be addressed by the State Department before a final EIS can be issued. After that, the 90-day public review period for the national interest determination begins.

Development of the Keystone XL Pipeline has been controversial. Proponents base their arguments supporting the pipeline primarily on increasing the diversity of the U.S. petroleum supply and economic benefits, especially jobs. Pipeline opposition stems in part from concern regarding the greenhouse gas emissions associated with the development of Canadian oil sands, continued U.S. dependency on fossil fuels, and the risk of a potential release of heavy crude. The Energy Production and Project Delivery Act of 2013 (S. 17), the Keystone for a Secure Tomorrow Act (H.R. 334), a bill to approve the Keystone XL Pipeline (S. 582), and the Northern Route Approval Act (H.R. 3) would all effectively approve the Keystone XL Pipeline. The Strategic Petroleum Supplies Act (S. 167) would suspend sales of petroleum products from the Strategic Petroleum Reserve until the pipeline is approved. On March 22, 2013, the Senate passed an amendment to the Fiscal 2014 Senate Budget Resolution (S.Con.Res. 8) that would provide for the approval and construction of the Keystone XL Pipeline (S.Amdt. 494).
Contents

Introduction ...................................................................................................................................... 1
    Presidential Permit Review ....................................................................................................... 1
    Keystone XL Permit Applications ............................................................................................. 2
    Past Congressional Actions ....................................................................................................... 3
    Congressional Actions in the 113th Congress ............................................................................ 4
Description of the Keystone Pipeline System................................................................................. 5
    The Keystone and Keystone XL Pipeline Systems ..................................................................... 5
    Marketlink for Bakken Oil Production ...................................................................................... 7
Presidential Permit Application Requirements ................................................................................. 8
    The Consideration of Environmental Impacts Under NEPA ................................................... 10
        Overview of the NEPA Process Relevant to Presidential Permit Approval .......................... 10
        Milestones in the NEPA Process for the Keystone XL Pipeline Project ............................. 11
    NEPA and the National Interest Determination ....................................................................... 14
        Overview of the Process for the 2008 Keystone XL Pipeline Project ............................... 15
State Siting and Additional Environmental Requirements .......................................................... 17
Legislative Efforts to Change Permitting Authority .................................................................... 19
Arguments For and Against the Pipeline ....................................................................................... 20
        Canadian Oil Imports in the Overall U.S. Supply Context .................................................. 21
        Oil Sands, Keystone XL, and the U.S. Oil Market ............................................................... 23
    Economic Impact of the Pipeline ............................................................................................. 28
    Lifecycle Greenhouse Gas Emissions ..................................................................................... 29
    Private Land Use and Oil Spill Impacts .................................................................................. 30
    Issues with the Original Pipeline Route Across the Sand Hills ............................................... 32

Figures

Figure 1. Existing Keystone Pipeline and Proposed Keystone Expansions ................................. 6
Figure 2. The Keystone XL and Gulf Coast Projects .................................................................... 7
Figure 3. Gross U.S. Oil Imports by Major Sources .................................................................... 22
Figure 4. Proposed Enbridge Flanagan South Pipeline Route ...................................................... 26
Figure 5. Keystone XL Project—Pipeline Route in Nebraska ...................................................... 34

Tables

Table 1. Milestones in the NEPA process for the Keystone XL Pipeline ..................................... 13
Table 2. Milestones in National Interest Determination Process for the 2008 Keystone XL Pipeline ........................................................................................................................................ 17
Appendixes

Appendix A. Presidential Permitting Authority ................................................................. 35
Appendix B. Details of the Initial NEPA Review ............................................................... 37

Contacts

Author Contact Information ......................................................................................... 40
Acknowledgments .......................................................................................................... 40
Introduction

TransCanada (a Canadian company) has applied to the U.S. Department of State for a Presidential Permit to build the Keystone XL Pipeline Project. The Keystone XL Pipeline would transport Canadian oil sands crude extracted in Alberta, Canada, and crude produced from the Bakken region in North Dakota and Montana to a market hub in Nebraska for further delivery to Gulf Coast refineries. Because it would cross the Canadian-U.S. border, construction of Keystone XL requires a Presidential Permit from the State Department. A decision to issue or deny a Presidential Permit is based on a determination that a project would serve the national interest.

TransCanada originally applied for a Presidential Permit for the Keystone XL Pipeline in 2008. The original proposal included a southern segment from Oklahoma to the Gulf Coast. After a final EIS for the original project was released in August 2011, the State Department began a 90-day public review period to make its national interest determination. One key issue that arose during this review was concern over environmental impacts in the Sand Hills region of Nebraska. This concern led the Nebraska legislature to enact new state pipeline siting requirements that would alter the pipeline route through Nebraska. In January 2012, the State Department concluded that it would not have sufficient information to evaluate an altered pipeline route before a deadline imposed by Congress and denied the permit. TransCanada and Nebraska have since agreed upon an alternative pipeline route avoiding the Sand Hills. In May 2012, TransCanada reapplied to the State Department for a Presidential Permit to build the cross-border segment of Keystone XL.

This report describes the Keystone XL Project, as proposed by TransCanada in its May 4, 2012, Presidential Permit application, and the process that the State Department is obligated to complete in processing that permit application. It also reviews selected issues that arose during the 2008 permit application process, particularly those that may affect the current permit application. This report also summarizes key arguments that have been raised, both for and against the pipeline, by the pipeline’s developers, state and federal agencies, environmental groups, and other stakeholders. Finally, the report discusses the constitutional basis for the State Department’s authority to issue a Presidential Permit, and opponents’ possible challenges to this authority.

Presidential Permit Review

Siting authority for oil pipelines generally lies with the states. However, the construction of facilities at the U.S. border for exporting or importing petroleum or other fuels requires a Presidential Permit issued by the Department of State. Before deciding whether to grant or deny a Presidential Permit, the Secretary of State must determine whether a project is in the national interest, taking account of factors such as energy security; environmental, cultural, and economic

---

1 This report provides an overview of the Keystone XL project, permit review process, and general policy issues. For more detailed legal analysis, see CRS Report R42124, Proposed Keystone XL Pipeline: Legal Issues, by Adam Vann, Kristina Alexander, and Kenneth R. Thomas. For more analysis of U.S.-Canada energy trade, see CRS Report R41875, The U.S.-Canada Energy Relationship: Joined at the Well, by Paul W. Parfomak and Michael Ratner. For additional environmental analysis associated with Canadian oil sands, see CRS Report R42537, Canadian Oil Sands: Life-Cycle Assessments of Greenhouse Gas Emissions, by Richard K. Lattanzio.

2 The southern segment of the original Keystone XL proposal, now called the Gulf Coast Project, was separated from the original proposal because it does not require a Presidential Permit. It is currently under construction.
impacts; foreign policy; and compliance with relevant federal regulations. The identification and consideration of environmental impacts is documented within the context of preparing an Environmental Impact Statement (EIS), pursuant to the National Environmental Policy Act (NEPA, 42 U.S.C. §§4321 et seq.).\(^3\)

Generally, a draft and final EIS would be prepared for a project. Once a final EIS is issued to inform the national interest determination, the Secretary of State must request the views of the Attorney General, the Secretaries of Defense, Energy, the Interior, Transportation, Homeland Security, and Commerce, and the U.S. Environmental Protection Agency. The Secretary of State may also consult with such state, tribal, and local government officials and foreign governments, as the Secretary deems appropriate, with respect to each application. To expedite the process, the Secretary is required to allow for agency and public comment for a period not to exceed 90 days from the date of the request public input process begins. The details of the State Department’s application review process for Keystone XL are discussed later in this report.

### Keystone XL Permit Applications

For the 2008 Keystone XL permit application, the NEPA compliance process involved preparation of a draft, supplemental draft, and final EIS. During that process, a wide range of environmental issues were identified that drew support for and opposition to the Keystone XL Pipeline. Once the NEPA process was largely complete (a final EIS had been issued) and the national interest determination process was underway, issues arose that made it clear that a supplemental final EIS would have to be prepared. In particular, the State Department determined that concern regarding pipeline construction across the Sand Hills region in Nebraska would require the consideration of an alternative pipeline route. In response to action taken by Nebraska’s governor and legislature, on November 10, 2011, the State Department announced that it needed to undertake an in-depth assessment of alternative pipeline routes that would avoid the Sand Hills.\(^4\) That assessment would be necessary before it could complete its national interest determination. Subsequently, on November 14, 2011, TransCanada announced an agreement with the Nebraska Department of Environmental Quality (DEQ) to identify a pipeline route that would avoid the Sand Hills.

After the State Department’s announcement of a delay in the permit review, Congress acted to expedite a permit decision on the Keystone XL Pipeline. The Temporary Payroll Tax Cut Continuation Act of 2011 (P.L. 112-78), enacted on December 23, 2011, included provisions requiring the Secretary of State to issue a permit for the project within 60 days, unless the President publicly determined the project not to be in the national interest. The act allowed for future changes to the Nebraska route if approved by the governor of Nebraska. On January 18, 2012, the State Department, with the President’s consent, denied the Keystone XL permit, citing

---

\(^3\) In processing Presidential Permit applications, the State Department is also explicitly directed to review the project’s compliance with the National Historic Preservation Act (16 U.S.C. §470f), the Endangered Species Act (16 U.S.C. §1531 et seq.), and Executive Order 12898 of February 11, 1994 (59 Federal Register 7629), concerning environmental justice. In processing the permit application for the Keystone XL Project, issues associated with NEPA compliance have drawn the most attention. In large part, that is likely because it is during the NEPA process that compliance with these, as well as any other environmental requirements, would be identified, documented, and demonstrated.

insufficient time under the 60-day deadline to obtain all the necessary information to assess the reconfigured project.5

On February 27, 2012, TransCanada announced that it would proceed with development of the Gulf Coast Project, a pipeline segment connecting Cushing, OK, to the Gulf Coast refineries originally proposed as part of the Keystone XL Project. The construction and operation of the Gulf Coast Project did not require a Presidential Permit since that segment of the pipeline would be located entirely within the United States. The Obama Administration has stated its support for the Gulf Coast Project, while reserving judgment on the reconfigured northern segment of the Keystone XL project until completion of a new Presidential Permit review.6

On May 4, 2012, the State Department received a new application from TransCanada for a reconfigured Keystone XL Project running from the Canadian border to an existing pipeline and oil market hub in Steele City, NE.7 The new application identified proposed new routes through Nebraska. On September 5, 2012, TransCanada submitted to the Nebraska Department of Environmental Quality its preferred alternative route for the Keystone XL pipeline in Nebraska.8 The governor of Nebraska approved a new route through the state on January 22, 2013.9 On March 1, 2013, the State Department issued a draft EIS for the modified Keystone XL Project.10 The reconfigured project would be 875 miles long and cross three states—Montana, South Dakota, and Nebraska.

Past Congressional Actions

Since it was initially proposed in 2008, many Members of Congress have expressed support for the Keystone XL pipeline’s potential energy security and economic benefits, while many others have expressed reservations about its potential environmental impacts.11 Though Congress, to date, has had no direct role in permitting the pipeline’s construction, it may have an oversight role stemming from federal environmental statutes that govern the pipeline’s application review process. Congress also may seek to influence the State Department permitting process, or may seek to assert direct congressional authority over permit approval, through new legislation.

---

7 See the U.S. Department of State’s “New Keystone XL Pipeline Project” webpage at http://www.keystonepipeline-xl.state.gov/.
In the 112th Congress, a number of legislative proposals, like P.L. 112-78, would have imposed deadlines on a national interest determination for the Keystone XL project. The North American-Made Energy Security Act (H.R. 1938) would have directed the President to issue a final order granting or denying the Presidential Permit for the Keystone XL pipeline by November 1, 2011. The Jobs Through Growth Act (H.R. 3400) would have required the President to issue a final order granting or denying the Presidential Permit for the Keystone XL pipeline within 30 days of enactment. The North American Energy Security Act (S. 1932) would have required the Secretary of State to issue a permit for the project within 60 days of enactment, unless the President publicly determined the project to be not in the national interest. The North American Energy Security Act (H.R. 3537) and the Middle Class Tax Relief and Job Creation Act of 2011 (H.R. 3630) contained similar provisions for issuing a Presidential Permit within 60 days of enactment. All of these proposals were mooted by the State Department’s initial denial of the permit.

Additional legislative proposals followed TransCanada’s second permit application. The North American Energy Access Act (H.R. 3548) would have transferred the permitting authority over the Keystone XL pipeline project from the State Department to the Federal Energy Regulatory Commission, requiring the commission to issue a permit for the project within 30 days of enactment. The Keystone for a Secure Tomorrow Act (H.R. 3811) would have immediately approved the original permit application filed by TransCanada in 2008. The Grow America Act of 2012 (S. 2199), the EXPAND Act (H.R. 4301), S. 2041 (a bill to approve the Keystone XL pipeline), and the Energizing America through Employment Act (H.R. 4000), would have similarly approved the original permit upon passage. All six bills included provisions allowing for later alteration of the pipeline route in Nebraska. A House bill (H.R. 6164) and The Domestic Energy and Jobs Act (H.R. 4211) would have suspended sales of petroleum products from the Strategic Petroleum Reserve until issuance of a Presidential Permit for the Keystone XL project application filed in 2008.

H.R. 3900 sought to ensure that any crude oil transported by the Keystone XL pipeline, or resulting refined petroleum products, would be sold only into U.S. markets—not exported overseas. S. 2100 and H.R. 4211 would have suspended sales of petroleum products from the Strategic Petroleum Reserve until issuance of a Presidential Permit for the Keystone XL project application filed in 2008.

**Congressional Actions in the 113th Congress**

In the 113th Congress, several legislative proposals from the prior Congress have been reintroduced. The Energy Production and Project Delivery Act of 2013 (S. 17) would eliminate the Presidential Permit requirement for the reconfigured Keystone XL pipeline. The Keystone for a Secure Tomorrow Act (H.R. 334) and a Senate bill to approve the Keystone XL Pipeline (S. 582) would directly approve the Keystone XL Pipeline under the authority of Congress to regulate foreign commerce. The Northern Route Approval Act (H.R. 3) would eliminate the Presidential Permit requirement for Keystone XL and require issuance of permits for water crossings by the Army Corps of Engineers within 90 days of an application, among other provisions. On March 22, 2013, the Senate passed an amendment to the Fiscal 2014 Senate Budget Resolution (S.Con.Res. 8) that would provide for the approval and construction of the Keystone XL Pipeline (S.Amdt. 494). Congressional debate continues.

---

12 S.Amdt. 2789 would have amended the Veterans Jobs Corps Act of 2012 (S. 3429).
Description of the Keystone Pipeline System

In 2005, TransCanada announced its plan to address expected increases in Western Canadian Sedimentary Basin production by constructing the Keystone Pipeline System. When complete, the system would transport crude oil from Hardisty, Alberta, to U.S. markets in the Midwest and Gulf Coast. The pipeline system was proposed as two distinct phases—the Keystone Pipeline (complete and in service) and Keystone XL Pipeline.

The Keystone and Keystone XL Pipeline Systems

The Keystone Pipeline was completed in two segments—the Keystone Mainline and the Cushing Extension. The Mainline is 1,353 miles of 30-inch pipeline from Hardisty, Alberta, to the United States refineries in Wood River and Patoka, Illinois. The U.S. portion of the pipeline runs 1,086 miles and begins at the international border in Cavalier County, ND, and has been in service since June 2010. The Cushing Extension is 298 miles of 36-inch pipeline and associated facilities that run from Steele City, NE (near the Kansas border) to existing crude oil terminals and tanks farms in Cushing, OK. The Cushing Extension has been in service since February 2011.

The Keystone XL pipeline system is also being proposed in two segments, as follows:

- **The Gulf Coast Project**, 485 miles of 36-inch pipeline and associated facilities linking the Cushing, OK, tank farms to refineries in Houston and Port Arthur, TX. This segment includes the Cushing Marketlink project that will provide receipt facilities to transport U.S. crude oil to the Gulf Coast. TransCanada anticipates this segment to be in service mid-to-late 2013.

- **The Keystone XL Project**, 875 miles of 36-inch pipeline and associated facilities linking Hardisty, Alberta to Steele City, NE. This segment also includes the Bakken Marketlink in Baker, MT—receipt facilities that can transport crude oil from the Williston Basin producing region for delivery to Steele City then Gulf Coast refineries. Of the Keystone Pipeline’s 830,000 bpd capacity, 100,000 bpd has been set aside to transport Bakken crude oil.

The Keystone Pipeline currently has the capacity to deliver up to 590,000 bpd of Canadian crude oil to U.S. refineries and export terminals. The Keystone XL Pipeline system (the northern and southern segments) would have a capacity of 830,000 bpd. As a result, the entire Keystone Pipeline System may ultimately have the capacity to deliver up to 1.3 million bpd of crude oil. The existing Keystone Pipeline and proposed expansions are illustrated in **Figure 1**. The proposed Keystone XL Project and associated projects are illustrated in **Figure 2**.
TransCanada estimates the capital cost of the U.S. portion of the Keystone XL Project, from the U.S. border to Steele City, NE, would be $5.3 billion. This figure was higher than the cost estimate when the 2008 permit application was filed, reportedly due to currency swings, changing regulatory requirements, and permitting delays.


Marketlink for Bakken Oil Production

The Bakken Formation is a large unconventional petroleum and natural gas resource underlying parts of North Dakota, Montana, and the Canadian provinces of Saskatchewan and Manitoba. Although the region has been producing since 1951, it is only since 2006 that prices and technology have made it economic for industry to increase production. In March 2012, Bakken production reached a new high of over 510,000 bpd, the first time breaking 500,000 bpd. In late 2011, Bakken oil production in North Dakota exceeded 500,000 bpd. Depending on the pace of well development in the region, production is expected to increase steadily. To date,

infrastructure to transport oil produced from the Bakken Formation has not kept up with the increased production. Bakken shale crude oil is transported to refineries by rail and truck, in addition to more economical transport by pipeline. (For more analysis, see CRS Report R42032, The Bakken Formation: Leading Unconventional Oil Development, by Michael Ratner et al.)

The proposed Keystone XL Project would include receipt facilities to transport crude produced from the Williston Basin in North Dakota and Montana to Gulf Coast refineries. That project, the Bakken Marketlink, would include facilities to provide crude oil transportation service from Baker, Montana, to Cushing, OK, via the proposed Keystone XL pipeline and from Cushing to delivery points in Texas, via the proposed Gulf Coast Project.17 Keystone Marketlink18 estimates that the project will cost $140 million and have the ability to deliver approximately 100,000 bpd of crude oil to the proposed Keystone XL pipeline.19 Keystone Marketlink currently has firm, long term contracts to transport 65,000 bpd of the 100,000 bpd.20

The Bakken contracts improve the economics for Keystone XL Pipeline, raising the amount of oil slated to flow through the pipeline.21 Lower transportation costs and access to new markets may support further investment in the Bakken. Furthermore, TransCanada is not the only company adding pipeline capacity in the region. Notably, Enbridge, another Canadian pipeline company, has proposed the Bakken Pipeline Project, which would add 120,000 bpd of transport capacity to move Bakken oil to Midwest markets.22 According to Enbridge, sufficient pipeline capacity has been slow to emerge in the region because “they’re smaller players in the Bakken. They are not able to make the 20-year commitments and it’s been a lot of work to get them to commit to the level that [is] required to underwrite a major project out of the Bakken.”23 Rail transport capacity is also expanding.24

Presidential Permit Application Requirements

Ordinarily, federal agencies have no authority to site oil pipelines, even interstate pipelines.25 The primary siting authority for oil pipelines generally would be established under applicable state law (which may vary considerably from state to state). However, the construction, connection, operation, and maintenance of a pipeline that connects the United States with a foreign country requires Executive permission conveyed through a Presidential Permit.

---

18 Keystone Marketlink, LLC, is a wholly owned subsidiary of TransCanada Pipelines Limited.
20 Ibid.
21 Vanderklippe, 2011.
25 This is in contrast to interstate natural gas pipelines, which, under Section 7(c) (15 USC §717f(c)) of the Natural Gas Act, must obtain a “certificate of public convenience and necessity” from the Federal Energy Regulatory Commission.
Executive Order 13337 delegates to the Secretary of State the President’s authority to receive applications for Presidential Permits.\textsuperscript{26} Issuance of a Presidential Permit depends on a State Department determination that the project would serve the “national interest.” The term is not defined in the Executive Orders or elsewhere. Regarding its interpretation of the term, the State Department has asserted that, consistent with the President’s broad discretion in the conduct of foreign affairs, it has significant discretion in deciding the factors it will examine in making a national interest determination.\textsuperscript{27} The State Department will not necessarily evaluate the same factors for each project seeking a permit. However, for the 2008 Keystone XL Project, the State Department identified the following as key factors it considered when making determinations for previous applications for pipeline permits:

- Environmental impacts of the proposed projects;
- Impacts of the proposed projects on the diversity of supply to meet U.S. crude oil demand and energy needs;
- The security of transport pathways for crude oil supplies to the United States through import facilities constructed at the border relative to other modes of transport;
- Stability of trading partners from whom the United States obtains crude oil;
- Relationship between the United States and various foreign suppliers of crude oil and the ability of the United States to work with those countries to meet overall environmental and energy security goals;
- Impact of proposed projects on broader foreign policy objectives, including a comprehensive strategy to address climate change;
- Economic benefits to the United States of constructing and operating proposed projects; and
- Relationships between proposed projects and goals to reduce reliance on fossil fuels and to increase use of alternative and renewable energy sources.\textsuperscript{28}

The State Department has broad discretion in determining what factors it will examine to inform its national interest determination and, ultimately, whether a proposed project is in the national interest. However, the State Department is required to consult with and seek the views of the Secretaries of Defense, the Interior, Commerce, Transportation, Energy, and Homeland Security; the Attorney General; and the Administrator of the Environmental Protection Agency. The Department is also required to solicit input from affected local, tribal, and state agencies and to invite public comment in arriving at its determination.

\textsuperscript{26} See Executive Order 13337, “Issuance of Permits With Respect to Certain Energy-Related Facilities and Land Transportation Crossings on the International Boundaries of the United States,” 69 Federal Register 25299, May 5, 2004, as amended, and Department of State Delegation of Authority No. 118-2 of January 26, 2006. The source of Permitting Authority for relevant Executive Orders is discussed further in the Appendix A.


\textsuperscript{28} Ibid. It was noted that this list is not exhaustive and that the State Department may consider additional factors in its national interest determination process.
The Consideration of Environmental Impacts Under NEPA

Apart from the potential to consider environmental impacts when making a national interest determination, pursuant to the National Environmental Policy Act (NEPA, 42 U.S.C. §4321 et seq.), the State Department would be obligated to consider the environmental impacts of granting or denying a Presidential Permit.29 Broadly, NEPA requires federal agencies to consider the environmental impacts of their actions before proceeding with them and to inform the public of those potential impacts.

To ensure that environmental impacts are considered before final agency decisions are made, for every major federal action that may have a significant impact upon the environment, an Environmental Impact Statement (EIS) must be prepared.30 With respect to the 2012 Presidential Permit application submitted by TransCanada, the State Department concluded that approval of a permit for the proposed construction, connection, operation, and maintenance of the pipeline and its associated facilities at the United States border could result in significant environmental impacts and, hence, requires the preparation of an EIS.31

This report provides an overview of the NEPA compliance process relevant to approval of a Presidential Permit. It also summarizes milestones in the NEPA compliance process, undertaken for both the 2008 permit application and the 2012 application that is currently being processed by the State Department.

Overview of the NEPA Process Relevant to Presidential Permit Approval

Preparing an EIS is the responsibility of a designated “lead agency,” in this case, the State Department. In developing an EIS for a private party applicant (TransCanada) the State Department may use a third-party contractor. Consistent with regulations implementing NEPA, such a contractor is one that is selected by and works under the direction of the State Department, but is being paid by the applicant.32

An EIS is generally prepared in two stages—resulting in a draft and final EIS. Among other requirements, an EIS must include a statement of the purpose and need for an action, a description of all reasonable alternatives to meet that purpose and need, a description of the environment to be affected by those alternatives, and an analysis of the direct and indirect effects of the alternatives, including cumulative impacts.33 Accordingly, the State Department EIS must

29 In processing Presidential Permit applications, the State Department is also explicitly directed to review the project’s compliance with the National Historic Preservation Act (16 U.S.C. §470f), the Endangered Species Act (16 U.S.C. §1531 et seq.), and Executive Order 12898 of February 11, 1994 (59 Federal Register 7629), concerning environmental justice.
31 U.S. Department of State, “Notice of Intent to Prepare a Supplemental Environmental Impact Statement (SEIS) and To Conduct Scoping and To Initiate Consultation Under Section 106 of the National Historic Preservation Act for the Proposed TransCanada Keystone XL Pipeline Proposed To Extend From Phillips, MT (the Border Crossing) to Steele City, NE,” 77 Federal Register 36032, June 15, 2012.
33 In preparing an EIS associated with a Presidential Permit, NEPA regulations promulgated by both the Council of Environmental Quality (CEQ) and the State Department would apply. CEQ regulations implementing NEPA (under 40 C.F.R. §§1500-1508) apply to all federal agencies. NEPA regulations applicable to State Department actions, which (continued...)
demonstrate that it has identified and considered potential environmental impacts of the entire pipeline project (including the construction, operation, and maintenance of the pipeline and its associated facilities), not just the facilities at the border crossing.

In preparing the EIS, the State Department must request input from “cooperating agencies,” which include any agency with jurisdiction by law or with special expertise regarding any environmental impact associated with the project. Cooperating agencies for the Keystone XL Project include the U.S. Environmental Protection Agency (EPA); the Department of Transportation’s Pipeline and Hazardous Materials Safety Administration (PHMSA), Office of Pipeline Safety (OPS); the Department of the Interior’s Bureau of Land Management, U.S. Fish and Wildlife Service, and National Park Service; the U.S. Army Corps of Engineers; the U.S. Department of Agriculture’s Farm Service Agency, Natural Resources Conservation Service, and Rural Utilities Service; the Department of Energy’s Western Area Power Administration; and state environmental agencies.

In addition to its role as a cooperating agency, EPA is also required to review and comment publicly on the EIS and rate both the adequacy of the EIS itself and the level of environmental impact of the proposed project. Rating the EIS takes place after the draft is issued. The EIS could be rated either “Adequate,” “Insufficient Information,” or “Inadequate.” EPA’s rating of a project’s environmental impacts may range from “Lack of Objections” to “Environmentally Unsatisfactory.” In rating the impact of the action itself, EPA would specify one of the following: “Lack of Objections,” “Environmental Concerns,” “Environmental Objections,” or “Environmentally Unsatisfactory.” The federal agency, in this case the Department of State, would then be required to respond to EPA’s rating, as appropriate.

As the NEPA compliance process for TransCanada’s permit application moves forward, it is helpful to understand the distinction between what is required under NEPA itself and what may be required pursuant to other environmental requirements identified within the context of the NEPA process. NEPA itself requires federal agencies to identify the environmental impacts of an action before proceeding with them and to involve the public in that process when environmental impacts are significant. In that process of identifying a proposed project’s environmental impacts, within the context of preparing the EIS, the lead agency should identify any compliance obligations (licenses, permits, or approvals) established under additional state, tribal, and federal law applicable to the portion of the project constructed in the United States (see “State Siting and Additional Environmental Requirements,” below).

**Milestones in the NEPA Process for the Keystone XL Pipeline Project**

For TransCanada’s 2008 Presidential Permit application, a draft, supplemental draft, and final EIS was prepared. Those documents identified environmental impacts associated with the Keystone XL Pipeline—a proposed pipeline route that would have extended from the Canadian border in...
Phillips County, MT, to Steele City, NE, and construction of a pipeline from Cushing, OK, to the Gulf Coast of Texas. For the 2012 permit application, the EIS evaluates potential impacts associated with the new route from Montana to Steele City, NE, that avoids the Nebraska Sand Hills, and excludes the proposed Gulf Coast Project.

On March 1, 2013, the State Department released the draft EIS for the proposed Keystone XL Project, as a supplement to the final EIS prepared for the 2008 Presidential Permit application (released in August 2011). According to the State Department, the draft EIA includes a “comprehensive review of the new route in Nebraska as well as any significant new circumstances or information that is now available on the largely unchanged route in Montana and South Dakota. It also expands and updates information that had been included in the 2011 Final Environmental Impact Statement that was prepared for the previous Keystone XL application.”

On March 8, a notice of availability for the draft EIS was published in the Federal Register. For a minimum of 45 days after publishing that notice, the State Department must receive public comments (including local, state, tribal, or federal agency comments) on the draft. The public comment period ends on April 22, 2013. After receiving agency and public comments on the draft EIS, and possibly modifying the EIS to address those comments, the State Department may issue a final EIS. The time it takes between the issuance of the draft and the final EIS would depend on a range of factors, including the scope and the nature of the comments—particularly comments from cooperating agencies, such as EPA.

Major milestones in the NEPA process, for both the 2008 and 2012 Presidential Permit applications are listed in Table 1, below (for detail on milestones associated with the 2008 permit application, see Appendix B).

---


37 The State Department refers to the EIS released in 2013 as a “Draft Supplemental” EIS. This reference apparently reflects the fact that the 2013 draft EIS draws largely from (or supplements) documentation and analysis included in the final EIS issued for the Keystone XL Project in 2011. However, for purposes of NEPA compliance, the submission of a new permit application in May 2012 started the NEPA process anew. While it may draw from the 2011 final EIS, the 2013 draft EIS is a new NEPA document—not a supplement to an EIS prepared for a different, albeit similar, Presidential Permit application.

38 See footnote 36.

### Table 1. Milestones in the NEPA process for the Keystone XL Pipeline

Federal, State, and Company Actions Relevant to the NEPA Compliance Process

<table>
<thead>
<tr>
<th>Date</th>
<th>Party</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sept. 2008</td>
<td>TransCanada Keystone Pipeline, L.P.</td>
<td>An application for a Presidential Permit is submitted to the State Department to authorize “the construction, connection, operation, and maintenance of pipeline facilities for the importation of crude oil to be located at the United States-Canada border”; a “Preliminary Environmental Report” for the project is also submitted.</td>
</tr>
<tr>
<td>Apr. 16, 2010</td>
<td>State Department</td>
<td>Draft EIS for the proposed Keystone XL Pipeline project is released for public comment.</td>
</tr>
<tr>
<td>July 16, 2010</td>
<td>EPA</td>
<td>The agency rates the draft EIS as “Inadequate,” noting that potentially significant impacts were not evaluated, that the additional information and analysis was needed, and that the draft EIS would need to be formally revised and again made available for public review.</td>
</tr>
<tr>
<td>Apr. 15, 2011</td>
<td>State Department</td>
<td>Supplemental draft EIS issued.</td>
</tr>
<tr>
<td>June 6, 2011</td>
<td>EPA</td>
<td>The agency rates the supplemental draft EIS as having “Insufficient Information” and the action as having “Environmental Objections.” EPA recommends additional analysis on a range of issues.</td>
</tr>
<tr>
<td>Aug. 26, 2011</td>
<td>State Department</td>
<td>Final EIS issued; 90-day public comment related to the national interest determination process begins.</td>
</tr>
<tr>
<td>Nov. 22, 2011</td>
<td>Governor of Nebraska DEQ/State Department</td>
<td>The governor signs legislation passed during the special session directing the Nebraska DEQ to work collaboratively with the State Department to gather information necessary for a supplemental EIS.</td>
</tr>
<tr>
<td>Nov. 2011</td>
<td>Nebraska DEQ/State Department</td>
<td>The agencies begin to negotiate a Memorandum of Understanding (MOU) regarding their collaboration on the supplemental EIS. Nebraska DEQ hires a contractor to delineate the “Sand Hills” region that alternative routes must avoid.</td>
</tr>
<tr>
<td>Dec. 23, 2011</td>
<td>Congress</td>
<td>The Temporary Payroll Tax Cut Continuation Act of 2011 (P.L. 112-78) is enacted, including provisions requiring the Secretary of State to issue a permit for the project within 60 days, unless the President determines the project is not in the national interest.</td>
</tr>
<tr>
<td>Jan. 18, 2012</td>
<td>State Department</td>
<td>The agency announces, with the President’s consent, that it will deny the Keystone XL permit. It states that its decision was predicated on the fact that the 60-day deadline under P.L. 112-78 did not provide sufficient time to obtain information necessary to assess the current project’s national interest.</td>
</tr>
<tr>
<td>Feb. 3, 2012</td>
<td>State Department</td>
<td>Formal permit denial issued; State Department and Nebraska DEQ suspend work on MOU regarding a supplemental EIS.</td>
</tr>
<tr>
<td>Feb. 2012</td>
<td>TransCanada</td>
<td>The company informs the State Department of its intent to continue with the Gulf Coast Project (a pipeline that would not require an EIS if constructed apart from the larger project that requires authorization via a Presidential Permit).</td>
</tr>
<tr>
<td>April 19, 2012</td>
<td>TransCanada</td>
<td>The company submits to Nebraska DEQ, Initial Report Identifying Alternative and Preferred Corridors for Nebraska Reroute; public meetings on the newly proposed routes followed.</td>
</tr>
</tbody>
</table>
**NEPA Compliance Milestones Relevant to TransCanada’s 2013 Presidential Permit Application**

<table>
<thead>
<tr>
<th>Date</th>
<th>Party</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>May 4, 2012</td>
<td>TransCanada</td>
<td>An application for a Presidential Permit is submitted to the State Department to authorize “the construction, connection, operation, and maintenance of pipeline facilities for the importation of crude oil to be located at the United States-Canada border.”</td>
</tr>
<tr>
<td>June 15, 2012</td>
<td>State Department</td>
<td>The department posts in the <em>Federal Register</em>: “Notice of Intent To Prepare a Supplemental Environmental Impact Statement (SEIS) and To Conduct Scoping and To Initiate Consultation Under Section 106 of the National Historic Preservation Act for the Proposed TransCanada Keystone XL Pipeline Proposed To Extend From Phillips, MT (the Border Crossing) to Steele City, NE.”</td>
</tr>
<tr>
<td>March 1, 2013</td>
<td>State Department</td>
<td>Draft EIS for the 2012 Keystone XL Project is released for public comment; comments will be received until April 22, 2013.</td>
</tr>
<tr>
<td>April 22, 2013</td>
<td>State Department</td>
<td>Deadline for submission of public comments on the draft EIS.</td>
</tr>
</tbody>
</table>

**Source:** Congressional Research Service, based on a review of events during, and affecting, the NEPA process conducted for the 2008 and 2012 Presidential permit applications for the Keystone XL Project.

Had the State Department modified its final EIS for the 2008 Presidential Permit application and continued its national interest determination, as it originally proposed in November 2011, it could have completed the NEPA process with only the publication of a supplemental final EIS that included analysis of new routes through Nebraska. However, denial of the Presidential Permit ended the NEPA process for the 2008 project. With the new Presidential Permit application, the State Department is required to begin a new NEPA process and, eventually, determine whether that project would serve the national interest.40

**NEPA and the National Interest Determination**

Generally, after a final EIS is issued, a federal agency may issue a final record of decision (ROD) for the project. However, for a Presidential Permit, issuance of the final EIS represents the beginning of a 90-day public review period during which the State Department gathers information from those necessary to inform its national interest determination. Ultimately, a decision regarding issuance of a Presidential Permit for a pipeline project would be reflected in a combined “Record of Decision and National Interest Determination,” issued by the State Department.41 That document, required under elements of both NEPA and E.O. 11424, formalizes the selection of a project alternative.

The process of determining a project’s national interest illustrates the distinctly different, yet interrelated requirements applicable to the NEPA process and the Presidential Permit application process. Under NEPA, the State Department (or any other federal agency considering an action) must fully assess the environmental consequences of an action and potential project alternatives before making a final decision. NEPA does not prohibit a federal action that has adverse

40 See footnote 36.

environment impacts; it requires only that a federal agency be fully aware of and consider those adverse impacts before selecting a final project alternative. That is, NEPA is intended to be part of the decision-making process, not dictate a particular outcome. By contrast, issuance of a Presidential Permit is predicated on the Secretary of State finding that the proposed project would serve the national interest.

Overview of the Process for the 2008 Keystone XL Pipeline Project

During the 90-day public review period for the 2008 Presidential Permit application, the State Department held public meetings in each of the six states through which the proposed pipeline would pass and in Washington, DC. The meetings were intended to give members of the public additional opportunity to voice their opinions on issues they thought should be taken into account in determining whether granting or denying the Presidential Permit would be in the national interest. During the review period, the State Department received input from state, local, and tribal officials as well as members of the public.

On November 10, 2011, during the public review period, the State Department issued a statement regarding the public comments and its response to those comments. The department stated that it received comments on a wide range of issues including the project’s potential impact on jobs, pipeline safety, health concerns, the societal impact of the project, and oil extraction in Canada. Concern regarding the proposed pipeline route through the Sand Hills area of Nebraska was identified as one of the most common issues raised. Comments regarding that pipeline route were consistent with the environmental impacts identified in the final EIS with regard to the unique combination of characteristics of the Sand Hills region (e.g., a high concentration of wetlands of special concern, a sensitive ecosystem, and extensive areas of very shallow groundwater).

Further, the Nebraska legislature convened a special session to consider the legislation that would establish regulations applicable to pipeline siting within the state.

Facing the prospect of new state pipeline siting regulations applicable to the Sand Hills, together with the concern about the Keystone XL pipeline’s specific “preferred” route, the State Department announced that it needed additional information about alternative pipeline routes avoiding the environmentally sensitive Sand Hills area in Nebraska before moving forward with its national interest determination. Although the State Department did not decide that environmental issues led to a determination that the proposed project was not in the national interest, environmental issues identified in the final EIS, and further stressed in public comments, led to its decision to delay that determination until it gathered this information. In a concurrent press release, President Obama stated

Because this permit decision could affect the health and safety of the American people as well as the environment, and because a number of concerns have been raised through a public process, we should take the time to ensure that all questions are properly addressed and all the potential impacts are properly understood.

44 Ibid.
45 The White House, Office of the Press Secretary, “Statement by the President on the State Department’s Keystone XL (continued...)
Subsequently, TransCanada announced that it would work with the State Department and the Nebraska Department of Environmental Quality (DEQ) to conduct an environmental assessment to define the best location for the Keystone XL pipeline in Nebraska. Further, the company stated that it would “cooperate with these agencies and provide them with the information they need to complete a thorough review that addresses concerns regarding the Sandhills region.”

The State Department has subsequently stated that it did not anticipate concluding the federal review process before the end of the first quarter of 2013. In a 2011 press interview, President Obama also appeared to suggest that, notwithstanding the delegation of Presidential Permit authority to the State Department, he would be personally involved in the final decision on the Keystone XL Pipeline permit application.

As noted previously, on December 23, 2011, the Temporary Payroll Tax Cut Continuation Act of 2011 was enacted (P.L. 112-78). Under Section 501, “Permit for Keystone XL Pipeline,” the Secretary of State was required to grant the Presidential Permit for the Keystone XL pipeline project within 60 days, unless the President determined that the pipeline would not be in the national interest. On January 18, 2012, the State Department announced, with the President’s concurrence, that the Presidential Permit for the proposed Keystone XL Pipeline would be denied at that time because it was determined not to serve the national interest. That recommendation “was predicated on the fact that the Department does not have sufficient time to obtain the information necessary to assess whether the project, in its current state, is in the national interest.” Milestones in the State Department process to make its national interest determination for the 2008 permit application are summarized in Table 2.
Table 2. Milestones in National Interest Determination Process for the 2008 Keystone XL Pipeline

<table>
<thead>
<tr>
<th>Date</th>
<th>Party</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aug.-Oct. 2011</td>
<td>State Department</td>
<td>The 90-day public review period for national interest determination begins; State Department holds public meetings in the six states through which the proposed pipeline would pass and in Washington, DC.</td>
</tr>
<tr>
<td>Oct. 2011</td>
<td>Congress</td>
<td>Fourteen Members of Congress request the State Department Office of Inspector General (IG) to investigate the department’s handling of the EIS and national interest determination for the Keystone XL project.</td>
</tr>
<tr>
<td>Oct. 24, 2011</td>
<td>Governor of Nebraska</td>
<td>The governor calls the Nebraska legislature into a special session to determine if siting legislation can be crafted and passed for pipeline routing in Nebraska.</td>
</tr>
<tr>
<td>Nov. 4, 2011</td>
<td>State Department</td>
<td>IG announces it is initiating a special review to determine to what extent the Department and all other parties involved complied with Federal laws and regulations relating to the Keystone XL pipeline permit process.</td>
</tr>
<tr>
<td>Nov. 10, 2011</td>
<td>State Department</td>
<td>The agency announces that additional information will be needed regarding alternative pipeline routes that would avoid the Nebraska Sand Hills before national interest determination can be made. Officials suggest that analysis needed to prepare the supplemental EIS, including additional public comment, could be completed as early as the first quarter of 2013.</td>
</tr>
<tr>
<td>Nov. 14, 2011</td>
<td>TransCanada</td>
<td>The company announces that it will work with the Nebraska Department of Environmental Quality (DEQ) to identify a potential pipeline route that would avoid the Nebraska Sand Hills.</td>
</tr>
<tr>
<td>Nov. 22, 2011</td>
<td>Governor of Nebraska</td>
<td>The governor signs legislation passed during the special session directing the Nebraska DEQ to work collaboratively with the State Department to gather information necessary for a supplemental EIS.</td>
</tr>
<tr>
<td>Nov. 2011</td>
<td>Nebraska DEQ/State Department</td>
<td>The agencies begin to negotiate a Memorandum of Understanding (MOU) regarding their collaboration on the supplemental EIS. Nebraska DEQ hires a contractor to delineate the “Sand Hills” region that alternative routes must avoid.</td>
</tr>
<tr>
<td>Dec. 23, 2011</td>
<td>Congress</td>
<td>The Temporary Payroll Tax Cut Continuation Act of 2011 (P.L. 112-78) is enacted, including provisions requiring the Secretary of State to issue a permit for the project within 60 days, unless the President determines the project is not in the national interest.</td>
</tr>
<tr>
<td>Jan. 18, 2012</td>
<td>State Department</td>
<td>The agency announces, with the President’s consent, that it will deny the Keystone XL permit.</td>
</tr>
</tbody>
</table>

Source: Congressional Research Service, based on a review of events during, and affecting, the State Department’s national interest determination for the 2008 Presidential Permit application for the Keystone XL pipeline project.

State Siting and Additional Environmental Requirements

As noted above, the federal government does not currently exercise siting authority over oil pipelines. Instead, siting for the Keystone XL pipeline must comply with any applicable state law—which can vary from state to state. South Dakota, for example, required TransCanada to apply for a permit for the Keystone XL pipeline from the state public utility commission, which
issued the permit on April 25, 2010.\textsuperscript{50} Montana requires a certificate from the state’s Department of Environmental Quality.\textsuperscript{51}

At the time of TransCanada’s initial application for a Presidential Permit, Nebraska did not have any permitting requirements that applied specifically to the construction and operation of oil pipelines, although a state statute does include an “eminent domain” provision, which grants eminent domain authority to oil pipeline companies that are unable to obtain the necessary property rights from the relevant property owners.\textsuperscript{52} However, due to the controversy surrounding the Keystone XL project, Nebraska’s governor called a special session of its legislature to enact legislation to assert state authority over pipeline siting. Subsequently, the state enacted two laws—one that would affect the siting of the Keystone XL pipeline and one that outlines procedures for siting any future oil pipeline in Nebraska.\textsuperscript{53} The latter will require an oil pipeline carrier proposing to construct a major oil pipeline in Nebraska to file an application with the state’s Public Service Commission and receive approval before beginning construction. Additionally, the law authorized the commission to follow certain procedures before deciding whether a proposed oil pipeline would serve the public interest.

Although there are limited federal requirements applicable to oil pipeline siting, there are numerous local, state, tribal, and federal requirements applicable to pipeline construction, operation, and maintenance. For example, the 2013 draft EIS for the Keystone XL Project lists major permits, licenses, approvals, and consultation requirements for the proposed project that would be required by federal, state, and local agencies prior to implementation of the project.\textsuperscript{54} Following are selected requirements included on that list:

\begin{itemize}
  \item The U.S. Army Corps of Engineers—issuance of a permit for sections of the project that require placement of dredge and fill material in waters of the United States, including wetlands (pursuant to Section 404 of the Clean Water Act), or for pipeline crossings of navigable waters (pursuant to Section 10 of the Rivers and Harbors Act);
  \item The Environmental Protection Agency—review and issue National Pollutant Discharge Elimination System permits for the discharge of pollutants in state waters (pursuant to Section 402 of the Clean Water Act);
  \item The Bureau of Land Management—grant temporary use permits for portions of the project that would encroach on federal lands;
  \item U.S. Fish and Wildlife Service—consider impacts to federally listed endangered species (pursuant to the Endangered Species Act) and provide a Biological Opinion if the project is likely to adversely affect federally listed species.
\end{itemize}

\textsuperscript{51} Montana Major Facility Siting Act, Title 75, Chapter 20.
\textsuperscript{52} Nebraska Rev. Stat. §57-1101.
\textsuperscript{54} U.S. Department of State, March 2013, Draft EIS, Section 1.9, “Permits, Approvals, and Regulatory Requirements.”
Multiple state/county agencies—consult on and/or consider issuance of permits for projects that cross navigable waters or state highways, or involve work potentially affecting state streams, cultural resources, or natural resources.

The time it took to complete the NEPA process was a focus of attention for the 2008 Presidential Permit application. However, for past pipeline projects, obtaining all required local, state, tribal, and federal permits, approvals, and licenses took a similar amount of time. By way of example, for the Alberta Clipper pipeline project (another oil sands pipeline) completion of the NEPA process, the national interest determination and issuance of a Presidential Permit took approximately two years. Obtaining the necessary permits, approvals, and licenses for construction of the pipeline took an additional two years.

Legislative Efforts to Change Permitting Authority

In light of the State Department’s denial of the 2008 permit application for the Keystone XL Project, some in Congress have sought alternative means to support development of the pipeline. There were a number of legislative proposals in the 112th Congress to change the federal permitting authority for the pipeline. H.R. 3548 would have transferred the permitting authority over the Keystone XL Project from the State Department to the Federal Energy Regulatory Commission (FERC), requiring the commission to issue a permit for the project within 30 days of enactment.55 Other proposals, such as H.R. 3811 and S. 3445, would have directly shifted permitting authority to Congress, effectively approving upon enactment the permit applications filed by TransCanada in 2008 and 2012, respectively.

Changing, or eliminating altogether, the State Department’s role in issuing cross-border infrastructure permits may raise questions about the President’s executive authority (further discussed in the Appendix A). In response to H.R. 3548, for example, the State Department’s key official on Keystone XL testified before Congress:

The legislation raises serious questions about existing legal authorities, questions the continuing force of much of the federal and all of the state and local environmental and land use management authority over the pipeline, and overrides foreign policy and national security considerations implicated by a cross border permit, which are properly assessed by the State Department.56

Such proposals may also raise some administrative and legal challenges for FERC or other federal agencies. A senior FERC official testified that a proposal like H.R. 3548 does not provide enough time for an “adequate” public record, provides no clear authority for enforcing measures required in the EIS, does not articulate a process for authorizing alterations to the pipeline route in Nebraska, and is unclear about permits required from other federal agencies, among other

55 The Surface Transportation Extension Act of 2012, Part II (H.R. 4348), which passed in the House on April 18, 2012, also contained these provisions, but they were subsequently dropped from the bill in conference committee with the Senate.

Given the State Department’s initial permit denial, and opposition from various environmental groups and stakeholders along the pipeline route, legal challenges are a possibility. However, in the event of a challenge based on an environmental issue, the distinction between State Department actions required under NEPA and those required under its authority to issue a Presidential Permit would be relevant. NEPA does not create a private right of action. Instead, judicial challenges to a federal agency action under NEPA are brought pursuant to the Administrative Procedure Act (APA, 5 U.S.C. §§706 et seq.). Presidential actions, however, are not subject to judicial review under the APA. That is, the final agency action reflected in an ROD is subject to judicial review, but the State Department’s national interest determination, made under its authority to issue a Presidential Permit, is not. For more analysis of the State Department’s authority to grant a Presidential Permit, see Appendix A.

Arguments For and Against the Pipeline

Proponents of the Keystone XL Project, including Canadian agencies and U.S. and Canadian petroleum industry stakeholders, base their arguments supporting the pipeline primarily on increasing the security and diversity of the U.S. petroleum supply and economic benefits, especially jobs. Pipeline opponents are generally environmental organizations and community groups. Their concerns stem from issues that can be broadly categorized as the pipeline’s global or community impacts. “Global” impacts stem primarily from concern regarding the lifecycle greenhouse gas (GHG) emissions associated with the development of Canadian oil sands, compared to conventional oil or renewable fuels. Although the concern regarding GHG emissions is focused primarily on the extraction process, opponents also argue that use of the oil sands crude promotes continued U.S. dependency on fossil fuels. Concern over adverse community impacts of the pipeline stems primarily from impacts associated with the pipeline’s construction and long-term use on private land—particularly its potential to affect agricultural uses and cattle grazing. Communities along the pipeline route are also concerned about the risk of a potential release of heavy crude and the operators’ ability to respond to a release, particularly in remote areas.

Impact on U.S. Energy Security

In its Presidential Permit application, TransCanada asserts that constructing the proposed Keystone XL pipeline is in the U.S. national interest to maintain adequate crude oil supplies for U.S. refineries. The application argues that the pipeline will allow U.S. refiners to substitute

---


58 While the APA’s definition of “agency” does not specifically exclude or include the president, the Supreme Court has held that exercises of presidential authority are not subject to judicial review because the president is not an agency (Dalton v. Specter, 511 U.S. 462, 470 (1994)). The Court has also held that the APA does not apply to the president based on separation of powers principles (Franklin v. Massachusetts, 505 U.S. 788, 800-01 (1992)).

59 For additional analysis of greenhouse gas issues associated with Canadian oil sands crudes, see CRS Report R42537, Canadian Oil Sands: Life-Cycle Assessments of Greenhouse Gas Emissions, by Richard K. Lattanzio.
Canadian supply for foreign crude supply and to obtain direct pipeline access to secure and growing Canadian crude output. In particular, the application asserts that the pipeline would allow the United States to decrease its dependence on foreign crude oil supplies from Mexico and Venezuela, the two largest oil exporters into the U.S. Gulf Coast. Consistent with this argument, H.R. 3900 would seek to ensure that any crude oil and bitumen transported by the Keystone XL pipeline, or any resulting refined products, would have to remain in U.S. markets subject to a presidential waiver allowing foreign export. Depending upon the circumstances, however, such restrictions could raise concerns with respect to international trade agreements, among other considerations.

Energy security arguments have taken on additional weight in light of the recent geopolitical tensions in the Middle East and North Africa. However, it is worth noting that even if Keystone XL is built, prices for the crude oil it carries as well as for domestically produced oil from elsewhere will continue to be affected by international events. The oil market is globally integrated and events in major producer and consumer countries can affect prices everywhere. For example, the disruption of Libyan supply in early 2011 contributed to higher crude oil prices in the United States, even though the United States imported almost no oil from Libya before the unrest broke out.

**Canadian Oil Imports in the Overall U.S. Supply Context**

Gross U.S. imports of crude oil and petroleum products averaged 11.4 million bpd (Mbpd) in 2011. U.S. oil exports averaged 2.9 Mbpd (almost entirely petroleum products), leaving net imports at 8.4 Mbpd. U.S. net imports have fallen by 4.1 Mbpd or 33% since they peaked in 2005 as a result of lower total oil consumption and higher domestic production. Some of this decline could be mitigated in the near term as oil demand recovers from the recession. However, there is increasing sentiment among forecasters that U.S. oil imports have passed their high water mark already and may remain relatively flat or fall in the foreseeable future.

Among the largest sources of U.S. gross oil imports are Canada (2.7 Mbpd), the Persian Gulf (1.9 Mbpd), Mexico (1.2 Mbpd), and Venezuela (0.9 Mbpd). Imports from the latter two sources have...
decreased in recent years in part due to lower need for imports described above and in part due to developments in those countries. Mexican production has been falling since 2004 because new oil developments have not been able to offset depletion at Mexico’s giant Cantarell field. Imports from Venezuela, another key source of U.S. imports, have also fallen. Venezuelan production never fully recovered after a strike at its national oil company, Petróleos de Venezuela, in 2002-2003. Venezuelan production today is nearly 1 Mbpd less than that achieved in 2001. In recent years, Venezuela has also been trying to diversify business away from the United States, for example, by increasing exports to China.68

Meanwhile, Canadian production and exports to the United States have increased, primarily due to growing output from the oil sands in western Canada. Energy markets in the United States and Canada are well integrated by pipeline infrastructure; nearly all Canadian energy exports go to the United States.69 Canadian oil production has increased about 0.2 Mbpd since 2005 and exports to the United States have increased by 0.5 Mbpd (see Figure 3).70 Some expect Canadian oil production to grow by nearly 2 Mbpd by 2025 due to increased output from the oil sands.71

---


69 For further analysis of U.S.-Canada energy trade, see CRS Report R41875, The U.S.-Canada Energy Relationship: Joined at the Well, by Paul W. Parfomak and Michael Ratner.

70 As in the United States, Canadian consumption fell due to economic downturn. This allowed the increment in exports to be higher than the increment in production.

Oil Sands, Keystone XL, and the U.S. Oil Market

Oil sands (also referred to as tar sands) are a mixture of clay, sand, water, and heavy black viscous oil known as bitumen. Oil sands require more processing than conventional crude oil. Oil sands are processed to extract the bitumen, which can then be sent to refineries in one of two forms. Bitumen can be upgraded into “syncrude,” a light crude that is suitable for pipeline transport and is relatively easy to refine. Alternatively, bitumen can be blended with lighter hydrocarbons to form a heavy crude (diluted bitumen or “dilbit”) that can be transported by pipeline. The bulk of oil sands supply growth is expected to be in the form of the latter.\(^{72}\)

Most oil sands imports into the United States currently go to the Midwest, where refineries have been investing in complex refining capacity to process growing volumes of heavy Canadian crude.\(^{73}\) The U.S. Gulf Coast region already has a large amount of complex refining capacity and is well suited for processing Canadian heavy crude oil. Gulf Coast refiners currently process heavy crudes from Venezuela, Mexico, and elsewhere. Complex refineries in the Gulf Coast may be best equipped to handle a large increase of heavy oil sands crude, though they may still need to adjust processes and make new capital investments in equipment to accommodate particular crudes’ characteristics,\(^{74}\) especially if the new Canadian crudes will be used in large amounts.\(^{75}\) There are 58 refineries in the Gulf Coast region (potentially served by the proposed Gulf Coast Project) that could process heavy crude oil similar in composition to the oil that Keystone XL pipeline would carry.\(^{76}\)

Oil production from the oil sands is increasing, as is production from the Bakken and other areas of the U.S. Midwest.\(^{77}\) Transport options to carry crude from the Midwest to the Gulf Coast are limited. (In the past, crude oil had been shipped up from the Gulf Coast to Midwestern refineries.) The resulting abundance of crude oil in the Midwest has driven down crude oil prices in that region relative to Gulf Coast and international crude markets. Midwestern refiners benefit from the lower cost of crude, but it does not translate to substantially lower consumer prices for gasoline or other products in the region. The Midwest still brings in refined products from the Gulf Coast, which keeps refined products prices in line with national and international levels.\(^{78}\)

Oil sands producers are interested in Keystone XL because it would expand their market reach into the Gulf Coast. The Gulf Coast region holds half of U.S. refining capacity, including a substantial amount of technologically advanced capacity capable of processing heavy sour crudes

\(^{72}\) CAPP, 2011, p. 7.

\(^{73}\) CAPP, 2011, p. 13. According to CAPP, refineries adding capacity to process more heavy oil in the Midwest include those in Roxana, IL; Whiting, IN, and Detroit, MI.


\(^{75}\) For a description of which units refineries may need to add (or have added) to be able to process more Canadian oil sands supply, see Praveen Gunaseelan and Christopher Buehler, “Changing US Crude Imports Are Driving Refinery Upgrades,” Oil and Gas Journal, August 10, 2009.


\(^{77}\) See increased U.S. crude oil production in the Midwest under the PADD2 heading at the following source: Energy Information Administration, U.S. Department of Energy, Crude Oil Production (by PADD), Petroleum & Other Liquids, http://www.eia.gov/dnav/pet/pet_crdd_paddn_ade_mbbldp_a.htm.

\(^{78}\) Adjusted for transport costs and other regional differences.
in large volumes. Reaching a larger market and one with more advanced refining capacity could increase the price these producers receive for their crude. For their part, Gulf Coast refiners are interested in the Keystone XL pipeline because it increases the supply of heavy sour crude in the Gulf Coast region, potentially bringing down their input costs relative to the options they currently have available. Canadian Natural Resources Limited, an oil sands producer, and Valero Energy Corporation, a large U.S. refiner, are among those that contracted for shipping capacity on the Keystone XL pipeline.

With expanded pipeline capacity extending to the U.S. Gulf Coast, Canadian oil sands crude may compete with other heavy crudes such as those from Mexico, Venezuela, and elsewhere. It is difficult to predict precisely how this competition will play out, but it may take place through shifting discounts or premiums on crude oils from various sources. It may be possible for Canadian oil supplies to effectively “push out” waterborne shipments from other countries, although this depends on a wide range of market conditions. Waterborne crudes may more easily go to other destinations than Canadian crudes, though like Canadian crudes they can be tied to specialized refining capacity, as is true for Venezuelan heavy crudes.

There is concern that increased supply of crude to the Gulf Coast may result in larger petroleum product exports rather than contributing to lower domestic fuel cost. Although the United States is a net importer of oil and petroleum products, it does export some petroleum products. U.S. petroleum product exports rose when domestic demand declined in the wake of the recession while foreign demand for certain fuels, such as diesel, remained relatively robust. Issues around potential export of Canadian crude oil carried on Keystone XL or export of products made from that crude oil are addressed in CRS Report R42465, *U.S. Oil Imports and Exports*, by Robert Pirog.

If Keystone XL secures growing oil sands output for the United States, it could push out seaborne crudes from elsewhere, regardless of where the product is ultimately sold. If the absence of the pipeline encourages Canadian oil sands producers and pipeline companies to find an alternate export route through the Canadian West Coast, Canadian supplies may displace heavy oil supplies in other markets and potentially allow relatively more overseas imports coming into the Gulf Coast. This possibility is discussed further below.

It should be noted that Keystone XL aims to alleviate two potential bottlenecks in the pipeline transportation system: Between Western Canada and the United States, and between the U.S. Midwest and the Gulf Coast. Existing pipelines between Canada and the United States have spare capacity to carry rising Canadian production for the time being. According to some estimates, additional capacity, such as Keystone XL, may not be needed until 2019. The latter bottleneck, between the Midwest and the Gulf Coast, is already at capacity and, as described above, has resulted in a discount for crude oil in the Midwest (though not for petroleum products). The Gulf Coast Pipeline Project, the lower leg of originally proposed Keystone XL pipeline, would address this second bottleneck and help alleviate the discount for Midwestern crudes.

---


Other Pipeline Projects

Apart from Keystone XL, several other pipeline proposals could help carry growing Canadian crude oil supplies to the U.S. Gulf Coast. On October 16, 2011, Enbridge announced it would purchase ConocoPhillips’ share of the Seaway pipeline and reverse its direction to bring crude oil from the Midwest to the Gulf Coast. ConocoPhillips had kept the pipeline running northward to serve its refinery in Ponca City, OK. However, the glut of oil in the Midwest had resulted in the pipeline running at low volumes. Nonetheless, ConocoPhillips had been uninterested in reversing the pipeline. ConocoPhillips, which is spinning off its refining business,82 sold its share of Seaway to Enbridge. Enbridge and Seaway shareholder Enterprise Products Partners L.P. reversed the direction of crude oil flows on the Seaway pipeline to enable it to transport oil from Cushing, OK, to the U.S. Gulf Coast. The pipeline began running southward at an initial capacity of 150,000 bpd in 2012, with capacity expected to increase to 400,000 bpd in 2013. The reversal and expansion are expected to reduce the glut of crude oil in the Midwest and reconnect Midwestern crude prices to global prices (driving the U.S. Benchmark West Texas Intermediate crude higher).83

Prior to the Seaway sale, Enbridge had reported significant commitments for two new pipeline projects: Flanagan South, which would carry oil from Illinois to Oklahoma, and Wrangler, which would carry oil from Oklahoma to Texas.84 According to Enbridge, the project would duplicate existing routes and would not cross an international border, so it would not require a Presidential Permit. Enbridge already has cross border pipeline capacity connecting Alberta to Illinois. However, according to press reports, Wrangler has been canceled in light of the Seaway purchase and reversal.85 Enbridge is moving forward with the Flanagan South project, which will have an initial capacity of about 600,000 bpd and run alongside Enbridge’s existing Spearhead pipeline (see Figure 4).86 Like Keystone XL/Gulf Coast Project, Flanagan South and a southbound Seaway may facilitate increased flow of Canadian crude to the U.S. Gulf Coast.

In February 2013, Enbridge also announced a proposal to convert segments of existing natural gas pipeline owned by Trunkline Gas Company to carry crude oil from western Canada and North Dakota to refineries in the eastern Gulf of Mexico. The pipeline conversion could potentially carry up to 660,000 bpd from the market hub at Patoka, IL, more than 700 miles to St. James, LA.87

84 Bradley Olson, “Enbridge Pursuing Alternative to Transcanada’s Keystone XL,” Bloomberg, November 9, 2011.
Rail Transportation

While the oil industry has been making substantial investments in pipeline capacity to relieve transportation bottlenecks for Canadian crudes, there has also been a substantial increase in oil transportation from the region by rail. As the State Department’s 2013 DEIS for the Keystone XL project states:

In the past 2 years, there has been exponential growth in the use of rail to transport crude oil throughout North America, primarily originating from the Bakken in North Dakota and Montana, but also increasingly utilized in other production areas, including the [Western Canadian Sedimentary Basin]. Because of the flexibility of rail delivery points, once loaded onto trains the crude oil could be delivered to refineries, terminals, and/or port facilities throughout North America, including the Gulf Coast area.88

Consistent with this view, both Canadian National Railway and Canadian Pacific Railway reportedly have long been pursuing a “pipeline on rails” business strategy, including new track investments, to move Canadian crudes to new markets throughout North America.89 While the potential volumes associated with rail transportation of crude would likely be lower than pipeline

---

88 U.S. Department of State, March 2013, Draft EIS, Section 5.1, “No Action Alternatives.”
volumes, they could still be significant. Increasing cross-border movements of crude oil by rail does not require State Department approval, so such an approach seeks to avoid regulatory delays. As rail volumes have increased, however, some policymakers have expressed concern about the potential safety of crude transport by rail compared to pipelines.90

**Canadian Oil to East and West Coast Markets**

There are proposals to increase the capacity for oil from Alberta to reach the Canadian east and west coast. Currently, nearly all of Canada’s oil exports go to the United States, mostly through north-south pipelines. Only one major oil pipeline extends from Alberta to Canada’s west coast: the Trans Mountain Pipeline, which is owned by Houston-based Kinder Morgan and has a capacity of 300,000 bpd. Some of the oil from the Trans Mountain Pipeline is loaded onto tankers and shipped from Vancouver. Nearly all of the quantities shipped by sea go to the United States, with a small amount going to China and other Asian countries.91 Proposals for additional east and westbound capacity include the following.

- Kinder Morgan has plans to expand the Trans Mountain Pipeline to 850,000 bpd by 2017, more than doubling its existing capacity, and expanding west coast shipping facilities.92 The expansion has received the necessary commitments from parties interested in shipping additional crude volumes. Some shippers are interested in using the additional capacity to export more Canadian crude oil to Asia. Kinder Morgan still needs regulatory approvals from Canadian authorities and is working to gain the support of stakeholders.93 There is some opposition to the project, including from groups concerned about additional tanker traffic near Vancouver and potential oil spill risks.94

- Enbridge has proposed a new pipeline: the Northern Gateway project would have a 525,000 bpd capacity to send oil from Edmonton to Kitimat, British Columbia.95 However, Northern Gateway faces opposition from groups including some First Nations communities and environmental groups.96

- Several projects are considering moving oil east rather than to the west coast. According to reports, TransCanada is considering a pipeline project sending oil east from Alberta to Quebec and New Brunswick, which could also carry crude bound for export.97 Enbridge is also interested in expanding eastbound capacity

90 See, for example, David Sheppard and Jeffrey Jones, “Train Hauling Canadian Oil Derails in Minnesota,” Reuters, March 27, 2013.
91 According to the Global Trade Atlas, about 0.5% of Canadian crude exports went to China in 2011 (accessed April 25, 2012).
95 Enbridge, “Northern Gateway at a Glance,” press release, 2011, http://www.northerngateway.ca/project-info/northern-gateway-at-a-glance. The project would also include a pipeline to allow the import of 193,000 bpd of condensate, a light hydrocarbon that can be blended with bitumen to allow pipeline transport.
by reversing its Line 9 Pipeline. Some suggest this could potentially lead to oil sands crude traveling east, through Montreal and then through another pipeline to Portland, ME, from which point it could be exported. As with other pipeline projects, these also face opposition from environmental groups concerned about oil spill risks and/or generally opposed to oil sands development.

These projects reflect anticipated growth of western Canadian oil production and an interest by Canadian oil producers to diversify their available markets beyond U.S. customers, including to reach rapidly growing Asian oil demand. Proposals have received criticism from environmentalists. Because it would require construction of a completely new pipeline, Northern Gateway in particular has been criticized by some environmental and First Nations groups.

Canadian interests assert that Canadian oil sales to Asian markets, where oil demand is growing rapidly, are more likely if greater shipments to the United States are not possible. A study commissioned by the U.S. Department of Energy suggested that

if pipeline projects to the BC [British Columbia] coast are built, they are likely to be utilized. This is because of the relatively short marine distances to major northeast Asia markets, future expected growth there in refining capacity and increasing ownership interests by Chinese companies especially in oil sands production. Such increased capacity would alter global crude trade patterns. Western Canadian Sedimentary Basin (WCSB) crudes would be “lost” from the USA, going instead to Asia. There they would displace the world’s balancing crude oils, Middle Eastern and African predominantly OPEC grades, which would in turn move to the USA. The net effect would be substantially higher U.S. dependency on crude oils from those sources versus scenarios where capacity to move WCSB crudes to Asia was limited.

**Economic Impact of the Pipeline**

In addition to supply diversity arguments, some Keystone XL pipeline proponents support the project based on economic benefits associated with expanding U.S. pipeline infrastructure. A recent study by the Energy Policy Research Foundation, for example, concludes that “the Keystone expansion would provide net economic benefits from improved efficiencies in both the transportation and processing of crude oil of $100 million-$600 million annually, in addition to an immediate boost in construction employment.” A 2009 report from the Canadian Energy Research Institute (CERI) commissioned by the American Petroleum Institute similarly concludes that

---


As investment and production in oil sands ramps up in Canada, the pace of economic activity quickens and demand for US goods and services increase rapidly, resulting in an estimated 343 thousand new US jobs between 2011 and 2015. Demand for U.S. goods and services continues to climb throughout the period, adding an estimated $34 billion to US GDP in 2015, $40.4 billion in 2020, and $42.2 billion in 2025.104

These CERI estimates apply to the entire oil sands industry, however, not only the Keystone XL project, and they are derived from a proprietary economic analysis which has not been subject to external review. Some stakeholders point to State Department and other studies reporting much lower anticipated economic benefits.105 With the separation of the Gulf Coast Project from the northern segment of the original proposal, the potential economic impact of the reconfigured Keystone XL project has clearly changed. Consequently, it is difficult to determine what specific economic and employment impacts may ultimately be attributable to the Keystone XL pipeline. Nonetheless, given the physical scale of the project, it could be expected to increase employment and investment at least during construction.

Lifecycle Greenhouse Gas Emissions

Oil production from oil sands is controversial because it has significant environmental impacts, including emissions of greenhouse gases during extraction and processing, disturbance of mined land, and impacts on wildlife and water quality.106 Because bitumen in oil sands cannot be pumped from a conventional well, it must be mined, usually using strip mining or open pit techniques, or the oil can be extracted with underground heating methods.107 Large amounts of water and natural gas are also required (for heating) during the extraction process.108 The magnitude of the environmental impacts of oil sands production, in absolute terms and compared to conventional oil production, has been the subject of numerous, and sometimes conflicting, studies and policy papers.109 Some stakeholders who object to oil sands projects oppose the Keystone XL pipeline because it expands access to new markets for the oil produced by those projects, thereby encouraging what they consider to be further environmentally destructive oil sands development. As discussed earlier, however, if oil sands production can be diverted to other markets (e.g., Asia), preventing the Keystone XL project may not necessarily limit oil sands development.110

---

110 For more analysis of oil sands, including the environmental effects of its extraction, see CRS Report RL34258, North American Oil Sands: History of Development, Prospects for the Future, by Marc Humphries.
Some stakeholders object to the Keystone XL pipeline because it would increase U.S. supplies of oil, and thereby perpetuate the nation’s dependence on imported fossil fuels and increase carbon emissions from the transportation sector. Acknowledging this concern, in a public forum on October 20, 2010, Secretary of State Clinton reportedly remarked that “we’re either going to be dependent on dirty oil from the [Persian] Gulf or dirty oil from Canada … until we can get our act together as a country and figure out that clean, renewable energy is in both our economic interests and the interests of our planet.” Critics of the State Department’s draft and supplemental draft EIS assert that the environmental review overlooks the pipeline project’s overall impact on greenhouse gas emissions, for example, from the extraction and refining processes. To address those potential emissions, EPA recommended that the final EIS include discussion of mitigation approaches for greenhouse gas emissions from extraction activities that are either currently used or could be employed to help lower lifecycle greenhouse gas emissions. However, others have argued that whether the Keystone XL Pipeline is constructed would have little bearing on greenhouse gas emissions as there are likely to be other export routes available for Canadian oil sands crude, and therefore, the same crude oils would still be transported and refined, albeit in different locations. For further analysis of greenhouse gas emissions associated with the Canadian oil sands, see CRS Report R42537, Canadian Oil Sands: Life-Cycle Assessments of Greenhouse Gas Emissions, by Richard K. Lattanzio.

Private Land Use and Oil Spill Impacts

For the proposed Keystone XL Project, approximately 88% of the land affected by pipeline construction and operation would be privately owned, with the remaining 12% primarily state and federal land. Private land uses along the proposed pipeline routes are primarily agricultural—farmers and cattle ranchers.

The pipeline’s construction and continued operation would involve a 50-foot-wide permanent right-of-way along the length of the pipeline. Keystone agreed to compensate landowners for losses on a case-by-case basis. However, a concern among landowners and communities along the route is the potential for their land or water (used for drinking, irrigation, or recreation) to be contaminated by an accidental release (spill) of oil. That concern is heightened in areas where the pipeline will be located near or would cross water or is in a remote location.

A primary environmental concern of any oil pipeline is the risk of a release, leak, or spill of oil. A release is a loss of integrity of a pipeline (from the mainline or other components); a leak is a release over time; and a spill is the liquid volume of a leak that escapes any containment system and enters the environment. In estimating potential environmental impacts, several factors will

111 See, for example: Natural Resources Defense Council, Tar Sands Invasion: How Dirty and Expensive Oil from Canada Threatens America’s New Energy Economy, May 2010.


be important—including the size and location of the release, leak, or spill, and how quickly it is remediated.

A release of oil on land would not necessarily result in surface or groundwater contamination. The potential for a spill to reach water would depend on factors such as its proximity to a water source (e.g., on or near a creek or stream or located on land where the groundwater table is close to the surface) and the characteristics of the environment into which the crude oil is released (e.g., porous underlying soils), and the volume of the spill, the duration of the release, and the viscosity and density of the crude oil.

The size of potential spills and the type of oil that would likely be released from the Keystone XL pipeline have been issues of concern to opponents of the project. In its July 16, 2010 comments on the draft EIS for the Keystone XL Project, EPA expressed particular concern over the potential adverse impacts to surface and ground water from pipeline leaks or spills. That concern stemmed from two areas—the toxicity of chemical diluents that may be used to allow bitumen to be transported by pipeline and the lack of risk assessment for potential “serious or significant spills,” including an evaluation of spill response procedures in the wake of such a spill.

Concerns reflected in EPA’s letter were realized 10 days later when the Enbridge Energy Partners’ Alberta Pipeline ruptured near Marshall, MI. The resulting spill released dilbit crude into a tributary creek of the Kalamazoo River and traveled approximately 40 miles downstream in the Kalamazoo River. Initially estimated by Enbridge as a release of approximately 800,000 gallons of crude, EPA subsequently estimated that over 1.1 million gallons were released. The spill resulted in over 220 areas of moderate-to-heavy contamination, including over 200 acres of submerged oil on the river bottom and over 300 solidified oil deposits. Enbridge estimates that cleanup will cost approximately $700 million.

The Enbridge spill highlighted several issues of concern among environmental groups and communities along the pipeline route—in particular, the nature of the dilbit crude likely carried by the Keystone XL pipeline. The dilbit crude in the Enbridge spill had been diluted with benzene and other hazardous constituents. Following the spill, high levels of benzene in the air prompted the issuance of voluntary evacuation of residents in the area. Concern over the presence of similarly toxic constituents, particularly the degree to which the level of toxic constituents may be unknown at the time of a release, has been an ongoing concern among environmental and community groups.

The Enbridge spill was considered a “very large spill” and not necessarily one that would likely occur along the Keystone XL pipeline route. However, in its first year of operation, TransCanada’s Keystone pipeline experienced 14 spills. Although mostly minor spills, one spill at the Ludden, ND, pump station resulted in the release of 21,000 gallons of oil. Like the Enbridge release, that release was first reported by local citizens, not as a result of the Keystone’s release detection equipment. A March 29, 2013, release of oil sands crude from an Exxon Mobil pipeline in Mayflower, AR, has continued to draw attention to the risk of potential spills from crude oil pipelines. These incidents have made pipeline opponents concerned that such spills may be

117 For more information see EPA’s regarding the response to the Enbridge oil spill at http://www.epa.gov/enbridgespill/.

significant and that, absent a witness to a spill, a leak in a remote area could potentially go undetected for a long period.

Also as illustrated in the aftermath of the Enbridge spill, cleanup of bitumen crude presents certain challenges. Dilbit is a relatively heavy crude oil mixture compared to other crude oils. In general, heavier oils are more persistent and present greater technical challenges in removal after a spill compared to lighter oils. Almost two years after the Enbridge spill, cleanup efforts continue. Since the spill, public access to 39 miles of the river system was banned to protect public health and safety. The first three-mile segment of river reopened to the public on April 27, 2012. Elements of the cleanup are expected to last until 2015.

Regardless of design, construction, and safety measures, the Keystone XL pipeline will likely have some number of spills over the course of its operating life. The unique oil spill response efforts necessary for dilbit crude make an accurate assessment of potential oil spill risk particularly relevant when addressing concerns expressed by opponents to the Keystone XL pipeline. The need for more conclusive analysis of potential risks associated with the transport of dilbit crude was addressed, in part, in the Pipeline Safety, Regulatory Certainty, and Job Creation Act of 2011 (P.L. 112-90, enacted January 16, 2012). In particular, under Section 16, “Study of transportation of diluted bitumen,” the Secretary of Transportation is required to conduct an analysis to determine whether there is any increased risk of a release for pipeline facilities transporting diluted bitumen. In response to that directive, the PHMSA contracted with the National Academy of Sciences to conduct a full and independent study of this topic, which is not yet completed. For further analysis of environmental issues associated with the Keystone XL project, see CRS Report R42611, Oil Sands and the Keystone XL Pipeline: Background and Selected Environmental Issues, coordinated by Jonathan L. Ramseur.

**Issues with the Original Pipeline Route Across the Sand Hills**

In the process of examining factors necessary to determine whether the Presidential Permit for the original Keystone XL Project was in the national interest, the State Department decided that it needed to assess potential alternative pipeline routes that would avoid the Sand Hills region of Nebraska. Unique characteristics of the Sand Hills—including its high concentration of wetlands, extensive areas of very shallow groundwater, and its sensitive ecosystem—were identified as factors that resulted in increasing public concern over the proposed pipeline location. For these reasons, TransCanada announced it would work with the Nebraska DEQ to identify a potential pipeline route that would avoid the Sand Hills. New pipeline routes through Nebraska, identified in the 2013 draft EIS, reflect the work between TransCanada and Nebraska DEQ.

To understand concerns about the potential environmental impacts of a pipeline crossing the Sand Hills (also referred to as the Sandhills), an understanding of the unique size and structure of the region is useful. The Sand Hills region is a 19,600 square mile sand dune formation stabilized by native grasslands that cover 95% of its surface. The surface is highly susceptible to wind erosion if the grassland is disturbed. Below its surface lie hundreds of feet of coarse sand and gravel. Essentially, the porous soil acts like a giant sponge that quickly absorbs precipitation, allowing very little to run off. In some areas, the water table reaches the land surface—a characteristic that creates lakes that dot the region as well as 1.3 million acres of wetlands. The loose, porous soil

---

and sensitivity to wind erosion have been factors contributing to a lack of development on the Sand Hills. As a result, the region contains the most intact natural habitat of the Great Plains of the United States. The porosity of the soil is also relevant because the Sand Hills sits atop the Ogallala Aquifer—one of the largest freshwater aquifer systems in the world.120

The highly porous soil of the Sand Hills makes it a significant recharge zone in the northern Ogallala Aquifer. That is, the sandy, porous soil of the Sand Hills allows a significant amount of surface water to enter (recharge) the aquifer system. Water from the aquifer also accounts for a significant amount of water use—78% of the region’s public water, 83% of irrigation water in Nebraska, and 30% of water used in the United States for irrigation and agriculture.

Potential impacts to the Ogallala Aquifer and the Sand Hills identified in the final EIS for TransCanada’s original permit application included groundwater contamination after an accidental spill or leak of crude oil during the construction or operation of the proposed pipeline. Along the preferred route of the originally proposed pipeline configuration, areas in the Sand Hills region were identified as locations where the water table may be close to the surface. The depth to groundwater was less than 10 feet for approximately 65 miles of the preferred pipeline route in Nebraska. Both the soil porosity and the close proximity of groundwater to the surface increase the potential that a release of oil from the pipeline could contaminate groundwater in the region.121

On January 13, 2013, the Governor of Nebraska approved a proposed reroute of the Keystone XL pipeline through Nebraska.122 The new route alternatives proposed for the Nebraska section of the Keystone XL pipeline avoids the Sand Hills and certain areas nearby with similar soil properties.

---

120 The entire Ogallala Aquifer system stretches across eight states generally from north to south to include South Dakota, Nebraska, Wyoming, Colorado, Kansas, Oklahoma, New Mexico, and Texas and underlies about 174,000 square miles.

121 Generally, a release of crude oil to land would not necessarily result in groundwater contamination. In addition to the depth from the land surface to groundwater and the characteristics of the environment into which the crude oil is released (e.g., characteristics of the underlying soils), the potential for crude oil to reach groundwater would depend on factors such as the volume of the spill, the duration of the release, and the viscosity and density of the crude oil.

122 See U.S. Department of State, March 2013, Draft EIS: “Volume III. Appendix A. Governor Approval of the Keystone XL Project in Nebraska.”
Figure 5. Keystone XL Project—Pipeline Route in Nebraska
Comparison of Currently and Previously Proposed Project Segments

Appendix A. Presidential Permitting Authority

The executive branch has exercised permitting authority over the construction and operation of “pipelines, conveyor belts, and similar facilities for the exportation or importation of petroleum, petroleum products” and other products at least since the promulgation of Executive Order 11423 in 1968. Executive Order 13337 amended this authority and the procedures associated with the review, but did not substantially alter the exercise of authority or the delegation to the Secretary of State in E.O. 11423. However, the source of the executive branch’s permitting authority is not entirely clear from the text of these Executive Orders. Generally, powers exercised by the executive branch are authorized by legislation or are inherent presidential powers based in the Constitution. E.O. 11423 makes no mention of any authority, and E.O. 13337 refers only to the “Constitution and the Laws of the United States of America, including Section 301 of title 3, United States Code.” Section 301 simply provides that the President is empowered to delegate authority to the head of any department or agency of the executive branch.

The legitimacy of this permitting authority has been addressed by federal courts. In Sisseton v. United States Department of State, the plaintiff Tribes filed suit and asked the court to suspend or revoke the Presidential Permit issued under E.O. 13337 for the TransCanada Keystone Pipeline. The U.S. District Court for the District of South Dakota found that the plaintiffs lacked standing because they would be unable to prove their injury could be redressed by a favorable decision. The court determined that even if the plaintiff’s injury could be redressed, “the President would be free to disregard the court’s judgment,” as the case concerned the President’s “inherent Constitutional authority to conduct foreign policy,” as opposed to statutory authority granted to the President by Congress.

The court further found that even if the Tribes had standing, the issuance of the Presidential Permit was a presidential action, not an agency action subject to judicial review under the Administrative Procedure Act (APA). The court stated that the authority to regulate the cross-border pipeline lies with either Congress or the President. The court found that “Congress has failed to create a federal regulatory scheme for the construction of oil pipelines, and has delegated this authority to the states. Therefore, the President has the sole authority to allow oil pipeline border crossings under his inherent constitutional authority to conduct foreign affairs.”

---

123 For a more expansive treatment of this topic, see CRS Report R42124, Proposed Keystone XL Pipeline: Legal Issues, by Adam Vann, Kristina Alexander, and Kenneth R. Thomas.
124 Providing for the performance of certain functions heretofore performed by the President with respect to certain facilities constructed and maintained on the borders of the United States, 33 Federal Register 11741, August 16, 1968.
126 Ibid.
128 Ibid. at 1078.
129 Ibid. at 1078, 1078 n.5.
130 See ibid. at 1080-81.
131 Ibid. at 1081.
132 Ibid.
President could delegate his permitting authority to the U.S. Department of State, but delegation did not transform the permit’s issuance into an agency action reviewable under the APA.133

In *Sierra Club v. Clinton*,134 the plaintiff Sierra Club challenged the Secretary of State’s decision to issue a Presidential Permit authorizing the Alberta Clipper pipeline. Among the plaintiff’s claims was an allegation that issuance of the permit was unconstitutional because the President had no authority to issue the permits referenced in E.O. 13337 (in this case, for the importation of crude oil from Canada via pipeline).135 The defendant responded that the authority to issue Presidential Permits for these border-crossing facilities “does not derive from a delegation of congressional authority ... but rather from the President’s constitutional authority over foreign affairs and his authority as Commander in Chief.”136 The U.S. District Court for the District of Minnesota agreed, noting that the defendant’s assertion regarding the source of the President’s authority has been “well recognized” in a series of Attorney General opinions, as well as a 2009 judicial opinion.137 The court also noted that these permits had been issued many times before and that “Congress has not attempted to exercise any exclusive authority over the permitting process. Congress’s inaction suggests that Congress has accepted the authority of the President to issue cross-border permits.”138 Based on the historical recognition of the President’s authority to issue these permits and Congress’s implied approval through inaction, the court found the Presidential Permit requirement for border facilities constitutional.

---

133 Ibid. at 1082.
134 689 F.Supp.2d 1147 (D. Minn. 2010).
135 Ibid. at 1162.
136 Ibid.
137 Ibid. at 1163 (citing 38 U.S. Atty Gen. 162 (1935); 30 U.S. Op. Atty. Gen. 217 (1913); 24 U.S. Op. Atty. Gen. 100; and Natural Resources Defense Council (NRDC) v. U.S. Department of State, 658 F.Supp.2d 105, 109 (D.D.C. 2009)). The court in *NRDC* held that the State Department’s issuance of a presidential permit under Executive Order 13337 was not subject to judicial review under the Administrative Procedure Act for abuse of discretion because “the issuance of presidential permits is ultimately a presidential action.” 658 F. Supp. 2d at 109, 111-12. The court said that to allow judicial review of such decisions would raise separation of powers concerns. Ibid. at 111.
138 Ibid.; see also Youngstown Sheet and Tube Co. v. Sawyer, 343 U.S. 579 (1952) (establishing a three-part test for analyzing the validity of presidential actions in relation to constitutional and congressional authority).
Appendix B. Details of the Initial NEPA Review

The NEPA process for TransCanada’s 2008 Presidential Permit application for the Keystone XL pipeline project included several significant milestones (summarized in Table 1). These events, and resulting documents, will likely have varying degrees of influence over TransCanada’s 2012 permit application.

Draft EIS issued

The State Department released its draft EIS for the proposed Keystone XL Pipeline project for public comment on April 16, 2010. The draft EIS identified TransCanada’s “preferred alternative” for the project as well as other alternatives considered. On July 16, 2010, EPA rated the draft EIS “Inadequate.” EPA found that potentially significant impacts were not evaluated and that the additional information and analysis needed was of such importance that the draft EIS would need to be formally revised and again made available for public review. Additional criticism of the State Department’s implementation of the NEPA process followed an October 21, 2010, statement by Secretary Clinton that, while analysis of the project was not complete and a final decision had not been made, the State Department was “inclined to” approve the project. Critics of the project, including some Members of Congress, stated that the Secretary’s statement appeared to prejudge its permit approval for the pipeline proposal as a foregone conclusion.

Supplemental Draft EIS Issued

The State Department issued a supplemental draft EIS on April 15, 2011. In addition to addressing issues associated with EPA’s inadequacy rating, the supplemental draft EIS addressed comments received from other agencies and the public. On June 6, 2011, EPA sent a letter to the State Department that rated the supplemental draft EIS as having “Insufficient Information” and having “Environmental Objections” to the proposed action. EPA acknowledged that the State Department had “worked diligently” to develop additional information in response to EPA’s comments and the large number of other comments on the draft EIS. However, EPA believed that additional analysis needed to be included in the final EIS to fully respond to its earlier comments.

139 Documents submitted for the initial 2008 Presidential Permit application have now been archived by the State Department. Documents related to that original application are available at http://keystonepipeline-xl.state.gov/archive/index.htm.

140 U.S. Environmental Protection Agency’s July 16, 2010, letter to the U.S. Department of State commenting on the draft EIS for the Keystone XL project is available at http://yosemite.epa.gov/oeca/webeis.nsf/%28PDFView%29/20100126/$file/20100126.PDF.

141 See Secretary of State Hillary Clinton, “Remarks on Innovation and American Leadership to the Commonwealth Club,” San Francisco, CA, October 15, 2010, available at http://www.state.gov/secretary/rm/2010/10/149542.htm. The statement by Secretary Clinton was actually made in response to a question about the Alberta Clipper pipeline project which received a Presidential Permit from the State Department in 2009; a State Department spokesman later clarified that the Secretary was referring to the Keystone XL pipeline permit approval.

142 For example, see the October 21, 2010, letter from Senator Mike Johanns to Secretary Clinton expressing his concern that her statement gave the appearance that approval of the pipeline was a foregone conclusion, http://johanns.senate.gov/public/?a=Files.Serve&File_id=8b090aa5-76fe-41ca-a674-ae9e37db8d36.

143 U.S. Environmental Protection Agency’s June 6, 2011, letter to the U.S. Department of State commenting on the supplemental draft EIS for the Keystone XL project is available at http://yosemite.epa.gov/oeca/webeis.nsf/%28PDFView%29/20110125/$file/20110125.PDF?OpenElement.
Among other items, EPA recommended that the State Department should do the following: improve the analysis of the potential oil spill risks, including additional analysis of other reasonable alternatives to the proposed pipeline route; provide additional analysis of potential oil spill impacts, health impacts, and environmental justice concerns to communities along the pipeline route and adjacent refineries; and improve its characterization of lifecycle greenhouse gas emissions associated with Canadian oil sands crude.

In its June 6 letter to the State Department, EPA refers to agreements with the State Department that certain deficiencies identified in the supplemental draft EIS would be addressed in the final EIS. Further, in its conclusion, EPA stated that it would carefully review the final EIS to determine if it fully reflects those agreements and if measures to mitigate adverse environmental impacts are fully evaluated.

**Final EIS Issued**

On August 26, 2011, the State Department issued the final EIS for the proposed Keystone XL Pipeline. Among other elements of the final EIS, it identified various major pipeline route alternatives and an environmental analyses of potential impacts associated with those alternatives.  

In October 2011, 14 Members of Congress wrote to the State Department’s Office of Inspector General requesting an investigation of the department’s handling of the EIS and national interest determination for the Keystone XL project. The request was prompted, in part, by press reports suggesting bias or potential conflicts of interest in the State Department’s hiring of an outside contractor to perform the EIS and in its communications with the pipeline’s developer, TransCanada. On November 4, the Inspector General’s Office (IG) announced that, in response to this request, it was initiating a special review “to determine to what extent the Department and all other parties involved complied with Federal laws and regulations relating to the Keystone XL pipeline permit process.” On February 9, 2012, the IG released its findings, reporting that the State Department “did not violate its role as an unbiased oversight agency,” among other specific findings generally supportive of the department’s Keystone XL permit review process.

**Public Review and National Interest Determination**

Following the release of the Keystone XL project’s final EIS, a review period began to determine if the proposed project was in the national interest. As part of the process for the Keystone XL project, the State Department held public meetings in each of the six states through which the pipeline would pass.

---

144 Environmental analysis associated with pipeline project alternatives is provided in Volumes 1 and 2 of the final EIS.
146 See, for example, Elisabeth Rosenthal and Dan Frosch, “Pipeline Review Is Faced with Question of Conflict,” New York Times, October 7, 2011.
148 Harold W. Geisel, United States Department of State, Office of Inspector General, Special Review of the Keystone XL Pipeline Permit Process, AUD/SI-12-28, February 2012.
proposed pipeline would pass and in Washington, DC. The meetings were intended to give members of the public additional opportunity to voice their opinions on issues they thought should be taken into account in determining whether granting or denying the Presidential Permit would be in the national interest. During the review period, the State Department received input from state, local, and tribal officials as well as members of the public.

After the public review period, the State Department issued a statement regarding the public comments and its response to those comments. The State Department stated that it received comments on a wide range of issues, including the Keystone XL project’s potential impact on jobs, pipeline safety, health concerns, the societal impact of the project, and oil extraction in Canada. Concern regarding the proposed pipeline route through the Sand Hills area of Nebraska was identified as one of the most common issues raised. Comments regarding that pipeline route were consistent with the environmental impacts identified in the final EIS with regard to the unique combination of characteristics of the Sand Hills region.

In the final EIS, the preferred pipeline route through Nebraska would have been located entirely above the Ogallala Aquifer. Potential impacts to the Ogallala Aquifer and the Sand Hills identified in the final EIS include potential groundwater contamination after a release (e.g., a spill or leak from a hole or damaged portion of the pipeline) of crude oil during the construction or operation of the proposed pipeline. Both the soil porosity and the close proximity of groundwater to the surface increase the potential that a release of oil from the pipeline could contaminate groundwater in the region.

During the public review period, the governor of Nebraska called a special session of the legislature to determine if siting legislation could be crafted and passed for pipeline routing in Nebraska. Facing the prospect of new state pipeline siting regulations applicable to the Sand Hills, together with the concern about the Keystone XL pipeline’s specific “preferred” route, the State Department announced that it would require additional information about alternative pipeline routes avoiding the environmentally sensitive Sand Hills area in Nebraska before moving forward with its national interest determination. Although the State Department did not decide that environmental issues led to a determination that the proposed project was not in the national interest, environmental issues identified in the final EIS, and further stressed in public comments, led to its decision to delay that determination until it gathered this information.

Although no new decision deadline was established, State Department officials suggested that it would be “reasonable to expect that this process including a public comment period on a supplement to the final EIS consistent with NEPA could be completed as early as the first quarter of 2013.” In a prior press interview, President Obama also appeared to suggest that,

---


150 These additional public meetings are not part of the NEPA process. Considering the strong public interest in the pipeline proposal (both opposed and in favor), the public hearings were part of the State Department’s national interest determination.

151 U.S. Department of State, November 10, 2011.


notwithstanding the delegation of Presidential Permit authority to the State Department, he would be personally involved in the final decision on the Keystone XL Pipeline permit application.\footnote{154}{KETV NewsWatch 7, “Uncut: KETV’s Rob McCartney Interviews President Obama,” Omaha, NE, November 1, 2011, http://www.ketv.com/video/29652519/detail.html.}

**Directive to the President to Approve or Deny the Permit**

In the wake of the State Department determination that supplemental analysis was needed, Congress directed the President to make a determination on the Presidential permit application for the Keystone XL pipeline. Specifically, the Temporary Payroll Tax Cut Continuation Act of 2011 (P.L. 112-78), enacted on December 23, 2011, included provisions requiring the Secretary of State to issue a permit for the project within 60 days, unless the President publicly determined the project to be not in the national interest.

Subsequently, the State Department, with the President’s consent, announced that it would deny the Keystone XL permit on January 18, 2012. In its announcement the department stated that its decision “was predicated on the fact that [P.L. 112-78] ... passed in December does not provide sufficient time to obtain the information that we think is necessary to assess whether the project, in its current state, is in the national interest.”\footnote{155}{U.S. Department of State, January 18, 2012.} However, the department also stated that its decision did not preclude TransCanada from reapplying for a Presidential Permit in the future, although such a reapplication “will trigger ... a completely new review process.”\footnote{156}{Ibid.}

As a result of that denial, instead of developing a supplemental EIS incorporating analysis applicable to a new pipeline route through Nebraska, a new Presidential permit application process will be required. As a result, a “new” NEPA process will be required. Although much of the analysis and documentation will likely be the same, issuance of a draft and final EIS, and corresponding public and agency comment periods, will be required.

**Author Contact Information**

Paul W. Parfomak  
Specialist in Energy and Infrastructure Policy  
pparfomak@crs.loc.gov, 7-0030

Linda Luther  
Analyst in Environmental Policy  
l Luther@crs.loc.gov, 7-6852

Robert Pirog  
Specialist in Energy Economics  
rirog@crs.loc.gov, 7-6847

Adam Vann  
Legislative Attorney  
avann@crs.loc.gov, 7-6978

**Acknowledgments**

The authors would like to acknowledge the contributions of Kristina Alexander, Vanessa Burrows, and Jim Uzel to the content of this report.


\footnote{155}{U.S. Department of State, January 18, 2012.}

\footnote{156}{Ibid.}