

**DEPARTMENT OF STATE
RECORD OF DECISION AND NATIONAL INTEREST
DETERMINATION**

TransCanada Keystone Pipeline, L.P. Application for Presidential Permit

Contents:

1.0 Summary

2.0 Legal Authority

3.0 Agency and Tribal Involvement and Public Comment

4.0 Project Background

5.0 Issues Considered in the Final Supplemental Environmental Impact Statement

6.0 Foreign Affairs and Energy Security

7.0 Basis for Decision

8.0 National Interest Determination

1.0 Summary

On May 4, 2012, TransCanada Keystone Pipeline, L.P. (Keystone) submitted an application to the U.S. Department of State (Department) for a Presidential Permit that would authorize construction, connection, operation, and maintenance of pipeline facilities at the United States-Canada border in Phillips County, Montana, to import crude oil from Canada into the United States. The proposed project, called Keystone XL (the proposed Project), would consist of approximately 1,204 miles of new, 36-inch-diameter pipeline extending from Hardisty, Alberta, to Steele City, Nebraska. The proposed Project would have the capacity to deliver up to 830,000 barrels per day (bpd) of crude oil. It would predominantly transport crude oil from the Western Canadian Sedimentary Basin (WCSB), but would also transport quantities of crude oil from Montana and North Dakota via a proposed pipeline and associated facilities known as the Bakken Marketlink.

Keystone is a limited partnership organized under Delaware law with a primary business address in Houston, Texas. Its affiliate, TransCanada Pipelines Ltd., would operate the proposed Project. TransCanada Pipelines Ltd. is a limited company organized under the laws of Canada with its headquarters located in Calgary, Alberta, Canada. Both Keystone and TransCanada Pipelines Ltd. are owned by affiliates of TransCanada Corporation, a Canadian company with stock publicly traded on the Toronto and New York stock exchanges.

Executive Order 13337 (April 30, 2004) delegates to the Secretary of State the President's authority to receive applications for permits for the construction, connection, operation, or maintenance of facilities for the exportation or importation of petroleum, petroleum products, coal, or other fuels (except for natural gas) at the borders of the United States and to issue or deny such Presidential Permits upon a national interest determination. The determination is Presidential in nature, and therefore the requirements of the National Environmental Policy Act of 1969 (NEPA), the National Historic Preservation Act of 1966 (NHPA), and the Endangered Species Act (ESA) are inapplicable. Nevertheless, the Department's review of the Presidential Permit application for the proposed Project has, as a matter of policy, been conducted in a manner consistent with NEPA. A Final Supplemental Environmental Impact Statement (Supplemental EIS) was released on January 31, 2014. In the Supplemental EIS, the Department evaluated the potential construction and operational impacts of the proposed Project and alternative impacts that may occur without the proposed Project on a wide range of environmental and cultural resources. Similarly, as a matter of policy, the Department conducted reviews of the proposed Project consistent with Section 106 of the NHPA, as amended, and with Section 7 of the ESA. The Department solicited public comment and conducted a broad range of consultations with state, local, tribal, and foreign governments and other federal agencies as it considered Keystone's application.

Under authority delegated by the President of the United States, and following an evaluation of the proposed Project, the Secretary of State has determined that issuing a Presidential Permit to Keystone to construct, connect, operate, and maintain at the border of the United States pipeline facilities for the transport of crude oil from Canada to the

United States as described in the Presidential Permit application for the proposed Project would not serve the national interest. Accordingly, the request for a Presidential Permit is denied.

2.0 Legal Authority

The President of the United States has authority to require permits for transboundary infrastructure projects, based upon his Constitutional powers. In Executive Order 13337, acting pursuant to the Constitution and laws of the United States, including Section 301 of Title 3 of the United States Code, the President delegated to the Secretary of State the authority to receive applications and make determinations regarding approval or denial of a Presidential Permit for certain types of border facilities, including those for cross-border petroleum pipelines, based on the Secretary's finding as to whether issuance of a permit would serve the national interest. Because the proposed Project seeks to build new petroleum facilities that cross the international border, the authority to make a determination for the issuance of a Presidential Permit for the border facilities has been delegated to the Secretary of State by the President. Once the Secretary makes a proposed determination on behalf of the President pursuant to Executive Order 13337, any of the Cabinet-level officials of the eight agencies named by the President in the Executive Order may indicate disagreement with it and request that the Secretary refer the application to the President. The Secretary's determination on behalf of the President stands and the Presidential Permit is issued or denied consistent with that decision if none of the Cabinet-level officials chooses to refer the application to the President.

As noted above, when reviewing an application for a Presidential Permit, the Secretary is required by the Executive Order to determine if issuance of the permit would serve the national interest. The determination is made pursuant to the President's Constitutional authority. No statute establishes criteria for this determination. The President or his delegate may take into account factors he or she deems germane to the national interest. With regard to the proposed Project, the Secretary has considered a range of factors, including but not limited to foreign policy; energy security; environmental, cultural, and economic impacts; and compliance with applicable law and policy. The determination is Presidential in nature and therefore the requirements of NEPA, the ESA, and the NHPA are inapplicable. Nevertheless, as a matter of policy and in order to inform the Secretary's determination regarding the national interest, the Department has reviewed the potential impacts of the action on the environment and cultural resources in a manner consistent, where appropriate, with these statutes. The purpose of preparing an environmental impact statement and undertaking the other statutory processes noted above was to produce a comprehensive review to inform decisionmakers and the relevant Executive Branch agencies about the potential environmental impacts of the proposed Project.

3.0 Agency and Tribal Involvement and Public Comment

The Department conducted extensive public outreach and consultation during several stages of its consideration of Keystone's Presidential Permit application in order to solicit

input on issues to be considered. The Department also conducted government-to-government consultation with Indian tribes regarding historic properties in a manner consistent with the NHPA, and consulted with relevant agencies consistent with the ESA and other statutes as appropriate. Finally, the Department sought views of other federal agencies as required by Executive Order 13337. The public notice, outreach, and consultation efforts during consideration of Keystone's application are further detailed below. The Department has taken all comments and relevant information into account in making the national interest determination. As directed by the President, the Department also has considered the input from agencies listed in Executive Order 13337.

3.1 Public Notice: Upon receipt of Keystone's application, the Department published in the Federal Register a Notice of Receipt of the Keystone XL Pipeline Application (77 FR 27533, May 10, 2012). At that time, the Department also established a website that it updated with information and significant documents throughout its review of the Presidential Permit application (*see* <http://www.keystonepipeline-xl.state.gov/>).

3.2 Public Comment Periods: On June 15, 2012, the Department published a notice in the Federal Register informing the public that it intended to prepare a Supplemental Environmental Impact Statement (77 FR 36032). The notice also announced plans for developing the scope of the environmental review and content of the Supplemental EIS, and invited public participation in that process, including soliciting public comments. The Department received over 400,000 comments during the scoping period (including letters, cards, emails, and telephone calls), which were considered and reflected as appropriate in developing the scope of the Supplemental EIS. The Department also published all comments received during this and all other public comment periods in the review, consistent with its commitment to conduct an objective, rigorous, and transparent review process.

In March 2013, the Department released a Draft Supplemental EIS, which was posted on the Department's website for the project. The Department distributed copies to public libraries along the pipeline route and to interested Indian tribes, federal and state agencies, elected and appointed officials, media organizations, non-governmental organizations (NGOs), private landowners, and other interested parties. On March 27, 2013, the Department published a notice in the Federal Register inviting the public to comment on the document (78 FR 18665). The Department then held a public meeting on April 18, 2013, in Grand Island, Nebraska, to receive further views from the public and other interested parties. In total, the Department received more than 1.5 million submissions during the public comment period for the Draft Supplemental EIS. These submissions came from members of the public, federal, state, and local representatives, government agencies, Indian tribes, NGOs, and other interested groups and stakeholders. All comments were considered as part of the Supplemental EIS; Volumes V and VI of the Supplemental EIS address the comments that were received.

On February 5, 2014, five days after releasing the Final Supplemental EIS, the Department published a notice in the Federal Register inviting members of the public to comment within 30 days on any factors they deemed relevant to the national interest

determination (79 FR 6984). Executive Order 13337 allows for such a public comment process, but does not require the Department to solicit public input. The response during the 30-day public comment period was unprecedented. The Department received more than 3 million submissions.

All comments were reviewed by subject matter experts from several Department bureaus who were knowledgeable about the proposed Project and involved in drafting sections of this Record of Decision and National Interest Determination, as well as by the third-party contractor engaged to assist the Department with tasks relating to the review of the permit application. The contractor, with guidance from Department experts, sorted the comments into six overarching issue areas discussed in the comments—environmental impacts (including climate change), cultural resources impacts, socioeconomic impacts, energy security, foreign policy considerations, and compliance with relevant federal and state laws and regulations. For each of these issue areas, the contractor identified a number of themes that captured the ideas or points raised by public comments. The Department's subject matter experts directly reviewed all of the issues and information raised in the public comments. The Department determined that the comments largely addressed issues that were also raised during preparation of the Supplemental EIS.

3.3 Tribal Consultation: The Department directly contacted 84 Indian tribes within the United States that could have an interest in the resources potentially affected by the proposed Project. Of the 84 Indian tribes, 67 notified the Department that they would like to consult on the proposed Project or were undecided. The Department conducted extensive government-to-government consultations with those 67 Indian tribes on the environmental, cultural, and other potential impacts of the proposed Project. In addition to communications by phone, email, and letter, Department officials held tribal meetings in October 2012 (three meetings), May 2013 (one meeting), and July 2013 (teleconference). The face-to-face meetings were held in four locations: Billings, Montana; Pierre, South Dakota; Rapid City, South Dakota; and Lincoln, Nebraska.

In addition to the government-to-government consultations, the Department engaged in discussions consistent with Section 106 of the NHPA with Indian tribes, Tribal Historic Preservation Officers, State Historical Preservation Officers, and the Advisory Council on Historical Preservation. The topics of these discussions included cultural resources, in general, as well as cultural resources surveys, Traditional Cultural Properties surveys, effects on cultural resources, and potential mitigation. Additionally, Indian tribes were provided cultural resources survey reports for the proposed Project and were invited both to conduct Traditional Cultural Property surveys funded by Keystone and to help develop and participate in the Tribal Monitoring Plan.

3.4 Consultation with Federal and State Agencies: Ten federal entities agreed to assist the Department as Cooperating Agencies during preparation of the Supplemental EIS: the U.S. Army Corps of Engineers, the Farm Service Agency, the Natural Resource Conservation Service, the Rural Utilities Service, the Department of Energy, the Bureau of Land Management, the National Park Service, the U.S. Fish and Wildlife Service (FWS), the Pipeline and Hazardous Materials Safety Administration's Office of Pipeline

Safety (PHMSA), and the U.S. Environmental Protection Agency (EPA). These agencies had significant input into the drafting of the Draft and Final Supplemental Environmental Impact Statements.

Consistent with Section 7 of the ESA, the Department consulted with the FWS and submitted a Biological Assessment on the proposed Project. The FWS issued a Biological Opinion in 2012 that is available as an attachment to the Supplemental EIS. Prior to issuance of this Record of Decision and National Interest Determination, consultations with the FWS were reinitiated regarding the rufa red knot (*Calidris canutus rufa*), designated a threatened species effective January 12, 2015, and the northern long-eared bat (*Myotis septentrionalis*), designated a threatened species effective May 4, 2015. The Department and FWS have concluded consultations with regard to the rufa red knot, but are still consulting on the northern long-eared bat.

Executive Order 13337 requires that the Secretary request the views of eight specified U.S. federal agencies with regard to the permit application. Accordingly, the Department requested the views of the Department of Defense, the Department of Justice, the Department of the Interior, the Department of Commerce, the Department of Transportation, the Department of Energy, the Department of Homeland Security, and the Environmental Protection Agency. The Department of Justice and the Department of Commerce informed the Department that they did not plan to provide any views with regard to the permit application. The other six agencies provided their views in writing; those views have been released in conjunction with this document.

The Department has also monitored other federal and state permitting and licensing processes, including, for example, litigation and the recent application to the Nebraska Public Service Commission concerning the proposed Project's route through that state.

3.5 Information Provided by Keystone: The Department had robust communication with Keystone throughout the review of the application for the proposed Project. Keystone responded to multiple requests for information and provided supplemental views and information on its own initiative, including through letters on February 24, 2015, and June 29, 2015. The Department has taken all information provided by Keystone into account in making the national interest determination.

4.0 Project Background

4.1 Keystone XL Project: The proposed Project would consist of approximately 1,204 miles of new, 36-inch-diameter pipeline extending from Hardisty, Alberta, to Steele City, Nebraska. Approximately 875 miles of the pipeline would be located in the United States. The pipeline would cross the international border between Saskatchewan, Canada and the United States near the town of Morgan, Montana, in Phillips County. The pipeline would have the capacity to deliver up to 830,000 bpd of crude oil. Annual quantities would likely vary based on market conditions and other factors.

Bakken crude would enter the pipeline within the United States through the proposed Bakken Marketlink Project—a five-mile pipeline with pumps, meters, and storage tanks that would connect to the Keystone XL pipeline near Baker, Montana. The facilities would supply up to 100,000 bpd of Bakken crude oil to the proposed Keystone XL pipeline.

At its southern terminus, the proposed Project would connect to the existing Keystone Cushing Extension pipeline, which extends from Steele City, Nebraska, to Cushing, Oklahoma. The Keystone Cushing Extension in turn connects to Keystone's Gulf Coast pipeline, which extends south to Nederland, Texas, in order to serve Gulf Coast refineries.

In addition to the pipeline and Bakken Marketlink facilities, the proposed Project would include ancillary facilities. Eighteen pumping stations would be located along the Keystone XL pipeline, and two pumping stations would be added to the Keystone Cushing Extension. Keystone further anticipates new pumping capacity on the Keystone Cushing Extension in Kansas. The pipeline would be located in a 50-foot-wide permanent right of way (ROW). The temporary construction ROW would be wider—110 feet—and access roads, construction camps, and related facilities would be needed during construction.

According to the application submitted by Keystone, the primary purpose of the proposed Project would be to transport crude oil from the border with Canada to delivery points in the United States (primarily to the Gulf Coast area). The proposed Project is meant to supply U.S. refineries with crude oil of the kind found in the WCSB (often called heavy crude oil). The proposed Project would also provide transportation for the kind of crude oil found within the Bakken formation of North Dakota and Montana (often called light crude oil).

Most recent U.S. production growth has been from tight oil formations—unlocked through technical innovations like hydraulic fracturing and horizontal drilling—that typically yield light, sweet crude. As a result, U.S. crude production growth has tended to displace imports from other countries also producing light, sweet crude—predominately in Africa. Oil sands bitumen consists of heavy, sour, viscous crude oil that is produced and marketed differently than most domestic unconventional crudes. Many U.S. refineries, particularly in the Midwest and Gulf Coast, are optimized to process heavy crudes like those from the oil sands.

As the Supplemental EIS explains, North American production growth coupled with constraints on transporting landlocked crude oil to market have kept prices of that crude low. This has heightened the attractiveness of the proposed Project to many in industry, and Keystone has stated that the pipeline capacity is already fully subscribed.

The Department notes that the ultimate disposition of crude oil that would be transported by the proposed Project, as well as any refined products produced from that crude oil, would be determined by market demand and applicable law. In the absence of heavy

crude oil from Canada, U.S. refineries, particularly in the Gulf Coast, will continue to rely on comparable foreign heavy crudes.

4.2 Prior Permit Application: Keystone's first application for the Keystone XL pipeline was submitted to the Department on September 19, 2008. A Final EIS was published on August 26, 2011. The route proposed in 2008 included the same U.S.-Canadian border crossing as the currently proposed Project, but a different pipeline route in the United States. That route traversed a substantial portion of the Sand Hills Region of Nebraska, as identified by the Nebraska Department of Environmental Quality (NDEQ). Moreover, the 2011 Final EIS route went from Montana to Steele City, Nebraska, and then from Cushing, Oklahoma, to the Gulf Coast area.

In November 2011, the Department determined that additional information was needed to fully evaluate the application—in particular, information about alternative routes within Nebraska that would avoid the NDEQ-identified Sand Hills Region. In late December 2011, Congress enacted a provision of the Temporary Payroll Tax Cut Continuation Act that sought to require the President to make a decision on the Presidential Permit for the 2008 application within 60 days. That deadline did not allow sufficient time for the Department to prepare a rigorous, transparent, and objective review of an alternative route through Nebraska. Accordingly, the Presidential Permit was denied.

In February 2012, Keystone informed the Department that it considered the Gulf Coast portion of the originally proposed pipeline project (from Cushing, Oklahoma, to the Gulf Coast area) to have independent economic utility, and indicated that Keystone intended to proceed with construction of the Gulf Coast pipeline as a separate project, called the Gulf Coast Project. The Gulf Coast Project did not require a Presidential Permit because it does not cross an international border. Construction on the Gulf Coast Project is now complete.

On May 4, 2012, Keystone filed a new Presidential Permit application for the Keystone XL Project. The proposed Project has a new route and a new stated purpose and need. The new proposed route differs from the 2011 Final EIS Route in two significant ways: 1) it would avoid the environmentally sensitive NDEQ-identified Sand Hills Region and 2) it would terminate at Steele City, Nebraska. From Steele City, existing pipelines would transport the crude oil to the Gulf Coast area. The proposed Project no longer includes a southern segment.

In addition to the NDEQ-identified Sand Hills Region, the proposed Project route would avoid other areas in Nebraska (including portions of Keya Paha County) that have been identified by the NDEQ as having soil and topographic characteristics similar to the Sand Hills Region. The proposed Project route would also avoid or move further away from water wellhead protection areas for the towns of Clarks and Western, Nebraska.

5.0 Issues Considered in the Final Supplemental Environmental Impact Statement

This Record of Decision and National Interest Determination is informed by the Supplemental EIS prepared by the Department and published in January 2014, which identified and analyzed a broad range of potential impacts of the proposed Project.

The Supplemental EIS presents information and analysis on a range of potential impacts of the proposed Project. It also describes the tribal consultations undertaken as part of the Supplemental EIS process. The Supplemental EIS also considers reasonable alternative pipeline routes and No Action Alternative scenarios.

Key topics in the Supplemental EIS, particularly those receiving significant public interest, are described below.

5.1 Greenhouse Gases and Climate Change Impacts: Greenhouse gases and the potential climate change impacts associated with the proposed Project were key areas of interest highlighted by the comments received by the Department. The Supplemental EIS evaluates the relationship between the proposed Project with respect to GHG emissions and climate change from the following perspectives:

- The GHG emissions associated with the construction and operation of the proposed Project and its connected actions;
- The indirect lifecycle (wells-to-wheels) GHG emissions associated with the WCSB crude oil that would be transported by the proposed Project as compared to the GHG emissions of the crudes it may displace; and
- How the GHG emissions associated with the proposed Project cumulatively contribute to climate change.

GHG Emissions Associated with Construction and Operation

The proposed Project would emit approximately 0.24 million metric tons of carbon dioxide (CO₂) equivalents (MMTCO₂e) per year during the construction period. These emissions would be emitted directly through fuel use in construction vehicles and equipment as well as land clearing activities, including open burning, and indirectly from electricity usage. To operate and maintain the pipeline, approximately 1.44 MMTCO₂e would be emitted per year, largely attributable to electricity use for pump station power, fuel for vehicles and aircraft for maintenance and inspections, and fugitive methane emissions at connections. The 1.44 MMTCO₂e emissions would be equivalent to GHG emissions from approximately 300,000 passenger vehicles operating for 1 year, or 71,928 homes using electricity for 1 year.

GHG Emissions Associated with the Indirect Lifecycle of WCSB Crudes

To enable a more comprehensive understanding of the potential indirect GHG impact of the proposed Project, it is important to consider the wider GHG emissions associated with the crude oil that would be transported by the proposed Project. A lifecycle analysis is a technique used to evaluate the environmental aspects and impacts (in this case GHGs) that are associated with a product, process, or service from raw materials acquisition

through production, use, and end-of-life (wells-to-wheels). This approach evaluates the GHG implications of the WCSB crudes that would be transported by the proposed Project compared to other crude oils that would likely be replaced or displaced by those WCSB crudes in U.S. refineries (hereinafter, reference crudes).

The Supplemental EIS analysis considers wells-to-wheels GHG emissions, including extraction, processing, transportation, refining, and refined product use (such as combustion of gasoline in cars) of WCSB crudes compared to other reference crudes, including heavy slates. The lifecycle analysis also considers the implications associated with other generated products during the lifecycle stages (so-called co-products) such as petroleum coke. The largest single source of GHG emissions in the lifecycle analysis is the finished-fuel combustion of refined petroleum fuel products, which is consistent for different crude oils.

WCSB crudes are generally more GHG intensive than other crudes they would replace or displace in U.S. refineries, and emit an estimated 17 percent more GHGs on a lifecycle basis than the average barrel of crude oil refined in the United States. As the EPA notes in its letter of February 2, 2015 to the Secretary, “oil sands crude is substantially more carbon intensive than reference crudes and its use will significantly contribute to carbon pollution.”

The total lifecycle emissions associated with production, refining, and combustion of 830,000 bpd of oil sands crude oil transported through the proposed Project is approximately 147 to 168 MMTCO₂e per year. The annual lifecycle GHG emissions from 830,000 bpd of the four reference crudes examined in the Supplemental EIS are estimated to be 124 to 159 MMTCO₂e. The range of incremental GHG emissions for crude oil that would be transported by the proposed Project is estimated to be 1.3 to 27.4 MMTCO₂e annually. The estimated range of potential emissions is large because there are many variables, such as which reference crude is used for the comparison and which study is used for the comparison. Nevertheless, at the high end, the Supplemental EIS states that 27.4 MMTCO₂e per year is equivalent to the annual GHG emissions from 5.7 million passenger vehicles or 7.8 coal-fired power plants.

These estimates characterize the potential increase in emissions attributable to the proposed Project if one assumes that approval or denial of the proposed Project would directly result in a change in production of 830,000 bpd of oil sands crudes in Canada. That is because the above estimates represent the total incremental emissions associated with production and consumption of 830,000 bpd of oil sands crude above and beyond the current baseline compared to the reference crudes. However, the actual increase in GHG emissions attributable to the proposed Project depends on whether or how much approval and use of the pipeline would cause an increase in oil sands production.

5.2 Market Analysis

Proposed Project’s Impact on Oil Sands Production

The Supplemental EIS utilizes analysis of evolving market conditions, transportation costs, oil-sands supply costs, and varying supply-demand scenarios to inform conclusions about the proposed Project's potential impact on oil sands production. The analysis concluded at the time it was published in January 2014 that approval or denial of any one crude oil transport project, including the proposed Project, would be unlikely to significantly impact the rate of extraction in the oil sands, or the continued demand for heavy crude oil at refineries in the United States. However, the Supplemental EIS balances this position by emphasizing that uncertainty underlies a number of key variables critical to projecting Canadian production growth – which is reinforced by analysis of lower oil prices.

Generally, the dominant drivers of oil sands development remain more global than any single infrastructure project. Oil sands production and investment could slow or accelerate depending on oil price trends, regulations, and technological developments, but the potential effects of those factors on the industry's rate of expansion need not be conflated with the more limited effects of individual pipelines. Under most market conditions, alternative transportation infrastructure would allow growing oil sands production to reach markets irrespective of the proposed Project. However, construction of the proposed Project would have some effect on discrete decisions about whether to develop specific oil sands projects if (1) no new pipeline capacity to Canadian ports or to the United States becomes operational and (2) the price of oil in the long run persists at a level where other transport options are no longer economical.

The impact on oil sands development is difficult to gauge with precision, in part because the cost differential between other modes of transport and pipelines may change over time, and production costs vary from one oil sands development to another. While the Department does not know all of the production costs or other investment factors for specific Canadian projects, the Supplemental EIS concluded that many projects are expected to break even when sustained oil prices are in the range of \$65-\$75 per barrel. On this basis, the Department's analysis found that oil sands production is expected to be most sensitive to transport costs with oil prices in or below that range.

In making long-term investment decisions, companies often distinguish between new development and production from existing projects with previously sunk capital costs. While oil prices consistently below supply costs over the long-term may delay or even cancel some future projects, decisions about proceeding with or expanding existing projects and those already under construction or with financing in place are largely based on marginal operating costs. In general, existing projects and those under development are unlikely to slow or stop unless revenues fall below current operating costs, which are much lower than total supply costs (\$20 to \$40 per barrel according to most estimates reviewed). This helps to explain why, to date, Canadian crude oil production, including from the oil sands, has proven resilient despite a significant drop in the price of oil, and it underpins the Department's recognition that some additional Canadian crude production is probable in the near-term.

Since the publication of the Supplemental EIS, the price of the benchmark West Texas Intermediate (WTI) crude oil has declined by over 60 percent from \$98.23 a barrel in January of 2014 to a low of \$38.24 a barrel in August 2015. WTI is approximately \$45 a barrel at present. The lower prices represent the degree to which global liquids production continues to outpace consumption. Despite an estimated 1.2 million bpd of growth in global consumption of petroleum and other liquids in 2014, global production increased by 2.3 million bpd. This pattern, which has continued throughout 2015, has resulted in global liquids inventory builds that are estimated at approximately 2.3 million bpd through the first seven months of the year, the highest level of inventory builds through July of any year since 1998.

Though some companies investing in the oil sands have indicated that they plan to move forward with existing operations and projects under construction, others have cut back on capital expenditures. The Department notes that several upstream producers and oilfield service companies have pursued layoffs in order to lower operating costs. Recent projections anticipate that Canadian oil production will continue to grow, but potentially at a slower rate than previously anticipated. Moreover, recent price drops highlight the uncertainty recognized in the Supplemental EIS of the long-term estimates.

While the Department understands that short-term fluctuations in price are less indicative of the industry's general outlook than broader macroeconomic forces, the Department highlights that oil prices are volatile, particularly over the short term, and long-term trends that drive the investment decisions of oil-sands producers are difficult to predict. Canadian production growth forecasts and the amount of new transportation capacity needed to meet them are uncertain. As a result, the crude oil price thresholds potentially relevant to future production levels could change if supply costs or production expectations prove different than estimated in the Supplemental EIS. While it is not possible to draw firm conclusions about the impact of the recent drop in oil prices on long-term Canadian production, the Department remains cognizant of its short-term impact and the potential for a continued and broader impact in the long term.

Crude-by-Rail

In recent years, industry has looked toward existing Canadian crude oil production forecasts and commercial realities tied to prevailing midstream bottlenecks as justification for further investment in alternative crude oil transportation. Although there are a number of possible alternative transportation avenues for crude from the oil sands to reach U.S. or other markets, significant investment has been made in the development of crude-by-rail loading and off-loading facilities throughout North America. Current WCSB rail loading capacity has been estimated to exceed 775,000 bpd and continues to grow. Under current market conditions, existing pipelines coupled with crude-by-rail facilities will likely have the capacity to accommodate new supply from upstream projects under construction and in various stages of completion in western Canada.

The extent to which rail transport will actually occur, however, or would prove to be a major form of transport for WCSB crude to the United States in the long term, remains uncertain. Utilization of rail facilities will depend upon many factors, including the

availability of cheaper pipeline transport options from the respective production areas, the rate of growth in emerging areas of crude production, demand from refineries that may be better served by rail from these sources, differences in the price of oil paid in the production areas and the price of oil paid at the refinery markets (particularly on the coasts), and arbitrage opportunities that may be available through faster rail-based transport.

Producers seeking to preserve margins in the face of narrowing price gaps between Western Canada Select crude, WTI, and other crudes such as the Mexican Maya, may seek to maximize the efficiency of existing pipeline infrastructure in lieu of rail. Moreover, implementation of new Department of Transportation rules intended to improve the safe transportation of large quantities of crude-by-rail may lead to a marginal increase in crude-by-rail costs.

5.3 Potential Spill Risk and Safety Impacts: Many concerns were raised in comments received by the Department regarding the potential environmental effects of a pipeline release, leak, and/or spill. The Supplemental EIS analyzes impacts from potential releases from the proposed Project by analyzing historical spill data. The analysis identifies the types of pipeline system components that historically have been the source of spills, the sizes of those spills, and the distances those spills would likely travel. The resulting potential impacts to natural resources, such as surface waters and groundwater, are also evaluated and mitigation measures are included that are designed to prevent, detect, minimize, and respond to oil spills.

The Supplemental EIS analyzes historical crude oil pipeline incident data within the PHMSA and National Response Center incident databases. Over a period of ten years, from January 2002 through July 2012, a total of 1,692 incidents were reported in the United States, of which 321 were reported to be pipe incidents and 1,027 incidents were reported to involve different equipment components such as tanks, valves, or pumps.

Most spills over this period were small. Of the 1,692 incidents between 2002 and 2012, 79 percent of the incidents were in the small (zero to 50 barrel) range—roughly equivalent to a spill of up to 2,100 gallons. Four percent of the incidents were in the large (greater than 1,000 barrel) range. If a pipeline spill were to occur, the severity of its impact would depend on the volume and aerial extent of oil released; the distance of the impacted entity from the spill source; site-specific environmental circumstances, including climate and species present; and the timing and nature of response efforts.

An oil spill that reaches a surface waterbody or wetland could cause effects such as reduced dissolved oxygen levels or high benzene contaminant levels. The Supplemental EIS states that acute toxicity could occur if substantial amounts of crude oil were to enter rivers and streams. If diluted bitumen were released and it flowed into surface water, the diluent fraction would tend to volatilize or dissolve into the water, leaving bitumen behind to sink or become suspended. Upwards of 25 percent of residual hydrocarbons could be reasonably removed by natural attenuation, while active recovery methods would be required for remediation of the remaining spill volume. Aggressive cleanup

methods could mix oil and water, which might result in longer-lasting impacts to sensitive waterbody habitat. Passive cleanup methods are less likely to impact resources, but require a timeframe on the order of tens of years.

There are 39 stream crossings within 40 miles upstream of protected or specially designated segments of the Niobrara and Missouri rivers, which are in proximity to the proposed Project route. The shortest distance an oil spill would have to travel to impact a protected waterbody is approximately 28.5 miles. Based on an analysis of PHMSA historical incident data of large-diameter pipeline releases, the probability of a spill occurring that would convey oil to a protected waterbody is once every 542 years.

Spilled crude oil could affect wildlife directly and indirectly. Direct effects include physical processes such as oiling and toxicological effects, which could cause sickness or mortality. Indirect effects include habitat impacts, nutrient cycling disruptions, and alterations to the ecosystem.

A surface release could produce localized effects on plant populations by direct oiling or by oil permeating through the soil, affecting root systems and indirectly affecting plant respiration and nutrient uptake. Generally, most past spills on terrestrial habitats have caused minor ecological damage, and ecosystems have shown a good potential for recovery.

There are 1,232 identified wells within the potential range of a large spill from the proposed Project. In Nebraska, the potential spill range from the proposed Project overlaps with the Steele City Wellhead Protection Area. Keystone agreed to provide an alternative water supply if an accidental release from the proposed Project contaminates groundwater or surface water used as potable water or for irrigation or industrial purposes.

Normal operations would be expected to result in less than one human injury per year. In the event of a spill, human health exposure pathways could include direct contact with crude oil, inhalation of airborne emissions from crude oil, or consumption of food or water contaminated by either the crude oil or components of the crude oil. Mitigation measures, including spill response and containment and emergency response plans, would reduce and minimize human and environmental exposures.

Keystone has agreed to incorporate additional mitigation measures in the design, construction, and operation of the proposed Project, in some instances exceeding what is normally required, including 59 Special Conditions recommended by PHMSA. Many of these mitigation measures are intended to reduce the likelihood of a release occurring. Other measures provide mitigation intended to reduce the consequences and impact of a spill should such an event occur.

The Supplemental EIS also discusses transportation by rail, in particular as part of the No Action Alternative scenarios (in other words, scenarios that may occur if the proposed Project is denied), and concludes that transport by rail likely results in a greater number

of injuries and fatalities per ton-mile than transportation by pipeline, as well as a greater number of accidental releases of crude oil and a greater overall volume of crude oil released. However, the average size of an accidental release associated with crude-by-rail transportation is smaller than the average size of an accidental release associated with a pipeline.

5.4 Socioeconomic Impacts: Socioeconomic impacts associated with the proposed Project were also of particular concern in the comments received by the Department throughout its process. The Supplemental EIS analyzes these impacts and provides information regarding economic activity that may result from an approval of the proposed Project.

Employment and Economic Activity

The Department utilized subject matter experts and established methodologies to characterize the macroeconomic impacts of the proposed project. Construction spending on the proposed Project was found to support a combined total of approximately 42,100 jobs throughout the United States for the up to two-year construction period. Of these jobs, approximately 16,100 would be direct jobs supported at firms that are awarded contracts for goods and services, including construction, by Keystone. The other approximately 26,000 jobs would result from indirect and induced spending; this would consist of goods and services purchased by the construction contractors and spending by employees working for either the construction contractor or for any supplier of goods and services required in the construction process. About 12,000 jobs, or 29 percent of the total 42,100 jobs, would be supported in Montana, South Dakota, Nebraska, and Kansas.

Of the 42,100 supported jobs described above, approximately 3,900 (or 1,950 per year if construction took two years) would comprise a direct, temporary, construction workforce in the proposed Project area. Employment supported by construction of the proposed Project would translate to approximately \$2.05 billion in employee earnings. Of this, approximately 20 percent (\$405 million in earnings) would be allocated to workers in the proposed Project area. The remaining 80 percent, or \$1.6 billion, would occur in other locations around the country.

According to Keystone, once the proposed Project enters service, operations would require approximately 50 total employees in the United States: 35 permanent employees and 15 temporary contractors. This small number would result in negligible impacts on population, housing, and public services in the proposed Project area.

The total estimated property tax from the proposed Project in the first full year of operations would be approximately \$55.6 million spread across 27 counties in three states. This impact to local property tax revenue receipts would be substantial for many counties, constituting a property tax revenue benefit of 10 percent or more in 17 of these 27 counties. Operation of the proposed Project is not expected to have an impact on residential or agricultural property values.

Construction contracts, materials, and support purchased in the United States would total approximately \$3.1 billion. Another approximately \$233 million would be spent on construction camps for workers in remote locations of Montana, South Dakota, and northern Nebraska. Construction of the proposed Project would contribute approximately \$3.4 billion to the U.S. gross domestic product (GDP). This figure includes not only earnings by workers, but all other income earned by businesses and individuals engaged in the production of goods and services demanded by the proposed Project, such as profits, rent, interest, and dividends.

When compared with the GDP in 2012 (the figure available when the Supplemental EIS was drafted), the proposed Project's contribution represents approximately 0.02 percent of annual economic activity across the nation.

Health Impacts

A number of commenters raised concerns about the potential for impacts on human health associated with the proposed Project. The Department took into account, with peer-reviewed research where appropriate, impacts to human health throughout the various resource areas in the Supplemental EIS.

For example, in the Potential Releases chapter, the Supplemental EIS examined potential health risks associated with exposure to crude oil and other relevant chemicals, were there to be a spill. In the Air Quality and Noise chapter, the Supplemental EIS addressed air pollution that would be associated with the construction and operation of the proposed Project. In the Cumulative Effects Assessment and Extraterritorial Concerns chapter, the Supplemental EIS described potential changes in pollution associated with refineries. Finally, the Supplemental EIS also examined potential human health impacts in Canada associated with oil sands development and pipeline construction and operation.

Environmental Justice

According to the Office of Environmental Justice in EPA, environmental justice refers to the "fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies." A total of 17 separate census areas with minority and/or low income populations could potentially be affected by construction or operation of the proposed Project. Temporary environmental justice impacts during construction could include exposure to construction dust and noise, disruption to traffic patterns, and increased competition for medical or health services in underserved populations. Positive impacts could include increased employment and earnings.

Minority or low-income populations could be more vulnerable should an oil release occur along the segment of the pipeline that transits through their communities. Further, Indian tribes with significant dependence on natural resources could be disproportionately affected.

Mitigation of environmental justice concerns would include ensuring adequate communication with affected populations, such as through public awareness materials in appropriate languages so as to ensure an appropriate level of emergency preparedness. With respect to employment opportunities, Keystone has committed to employee and supplier diversity and has programs in place to mitigate impacts on vulnerable populations.

Some comments, particularly from Indian tribes, have expressed concern that temporary camps of construction workers along the proposed Project route may increase crime and otherwise disrupt local communities. In their letters to the Department of February 2, 2015, the Department of Homeland Security and the Department of the Interior also expressed concerns in this regard. Keystone committed to take several measures to ensure greater safety for those communities along the route, including security provisions and a code of conduct for the workers.

5.5 Physical Disturbance Impacts:

Water Resources

Construction and operation of the proposed Project could result in temporary and permanent surface water impacts, including stream sedimentation, changes in stream channels and stability, and temporary reduction in stream flow. The proposed Project's pipeline route would avoid surface water whenever possible, but would cross approximately 1,073 surface water bodies, including 56 perennial rivers and streams, as well as approximately 24 miles of mapped floodplains. Mitigation measures would include tunneling the pipeline underneath major rivers to mitigate construction impacts, erosion control during construction, and restoration of waterbodies as soon as practical after construction.

Wetlands

The proposed Project would affect approximately 383 acres of wetlands, two acres of which may be permanently lost. Remaining wetlands affected by the proposed Project would remain as functioning wetlands, provided that impact minimization and restoration efforts described in the mitigation plan are successful. Keystone has made route modifications to avoid wetland areas (such as the sensitive NDEQ-identified Sand Hills Region) and has committed to additional mitigation measures.

Threatened and Endangered Species

Fifteen federally protected, proposed, and candidate species occur in the proposed Project area: 13 federally listed threatened or endangered species, and two candidate species for listing as threatened or endangered. The endangered American burying beetle (*Nicrophorus americanus*) is the only species that is likely to be adversely affected by the proposed Project, but other species could potentially be affected. Those include the federally endangered black-footed ferret (*Mustela nigripes*), interior least tern (*Sternula antillarum*), whooping crane (*Grus americana*), and pallid sturgeon (*Scaphirhynchus albus*); the threatened piping plover (*Charadrius melodus*), Western prairie fringed orchids (*Platanthera praeclara*), northern long-eared bat (*Myotis septentrionalis*), and

rufa red knot (*Calidris canutus rufa*); and federal candidate species the greater sage-grouse (*Centrocercus urophasianus*) and Sprague's pipit (*Anthus spragueii*).

The FWS issued a May 2013 Biological Opinion regarding potential impacts of the proposed Project on seven federally protected species and included conservation measures for two federal candidate species. The American burying beetle was the only species likely to be adversely affected by the proposed Project, but the FWS has determined that its continued existence would not likely be jeopardized. Keystone committed to avoidance and conservation measures as well as compensatory mitigation for species included in the May 2013 FWS Biological Opinion and four implementing agreements (appendices to the Biological Opinion). Keystone has also developed species-specific assessment, avoidance, conservation, and compensatory mitigation measures for other Federal or state species of concern.

The Department reinitiated ESA Section 7 consultations with the FWS on whether the proposed Project could have impacts on the northern long-eared bat and the rufa red knot (both recently designated as threatened), and if so, to develop avoidance and conservation measures as appropriate. The Department and FWS have concluded consultations with regard to the rufa red knot, but are still consulting on the northern long-eared bat.

Geology and Soils

The proposed Project's pipeline route extends through relatively flat and stable areas, and the potential for seismic hazards (earthquakes), landslides, or subsidence (sink holes) is low. The route would avoid the NDEQ-identified Sand Hills Region, where soils are particularly susceptible to damage from pipeline construction. Potential impacts to soil resources in other areas associated with construction or operation of the proposed Project and connected actions include soil erosion, loss of topsoil, soil compaction, an increase in the proportion of large rocks in the topsoil, soil mixing, soil contamination, and related reductions in the productivity of desirable vegetation or crops. Mitigation measures would include construction of temporary erosion control systems, implementation of topsoil segregation methods, and restoration of the ROW after construction.

Terrestrial Vegetation

Potential construction and operations-related impacts to terrestrial vegetation resources associated with the proposed Project include impacts to cultivated crops, developed land, grassland/pasture, upland forest, open water, forested wetlands, emergent herbaceous wetlands, and shrub-scrub communities. The proposed Project route would impact biologically unique landscapes and vegetation communities of conservation concern. Keystone committed to restore areas to preconstruction conditions as practicable, and reseed disturbed areas, and to use specific best management practices and procedures to minimize and mitigate the potential impacts to native prairie areas.

Wildlife

The proposed Project would cause minor impacts to wildlife and wildlife habitat. Potential impacts to wildlife include habitat loss, alteration, and fragmentation; direct mortality during construction and operation (e.g., wildlife collisions with vehicles and

power lines/power poles); and reduced survival or reproduction due to stress or avoidance of feeding caused by factors such as construction and operations noise and increased human activity. Mitigation measures to reduce potential construction and operations-related effects to wildlife where habitat is entered would include construction timing restrictions and buffer zones developed in consultation with regulatory agencies as well as measures to minimize adverse effects to wildlife habitats. Keystone committed to develop and implement a conservation plan for migratory birds and bald and golden eagles and their habitats in consultation with the FWS.

Fisheries

Impacts to fisheries within the rivers and perennial streams crossed by the proposed Project route would occur during construction and would be temporary. The Construction, Mitigation, and Reclamation Plan contains measures for waterbody crossings to reduce potential effects on fish and aquatic/stream bank habitat and otherwise minimize potential impacts to fisheries resources. Mitigation measures would include best practices in open-cut stream crossings to reduce stream bed disturbance, sediment impacts, and interference with spawning periods; crossing under large rivers using horizontal directional drilling methods; minimization of vehicle contact with surface waters; and development of site-specific contingency plans to address unintended releases of drilling fluids that include preventative measures and a spill response plan.

Land Use, Recreation, and Visual Resources

Approximately 15,296 acres of land would be affected by construction of the proposed Project, though only approximately 5,569 acres would be retained for operation within permanent easements along the pipeline ROW and at the locations of ancillary facilities (e.g., access roads, pump stations). Approximately 89 percent of the total affected acreage (13,597 acres) is privately owned and the remainder government-owned. Rangeland (approximately 63 percent) and agricultural land (approximately 33 percent) comprise the vast majority of land use types that would be affected by construction. Impacts to land use resources include lease or acquisition and development of the pipeline ROW and land for ancillary facilities (e.g., access roads, pump stations, and construction camps), damage to agricultural features and productivity, visual impacts, and increased dust and noise.

Construction activities would temporarily affect recreational traffic and use patterns in special management and recreational areas, such as historic or scenic trails and rivers with recreational designations. Impacts of operation of the proposed Project on recreation would be minimal.

Visual impacts associated with the proposed Project would primarily occur during construction, when pipeline and ancillary facility construction, trenching, and facilities such as pipe yards would be visible. Permanent visual impacts following operation would include the presence of new ancillary facilities as well as visual disturbances in the landscape, such as tree removal, along the pipeline route.

Keystone committed to compensate landowners for construction- and operation-related impacts. It would implement measures to reduce impacts to land uses, recreation, and visual resources such as topsoil protection, restoring disturbed areas, and developing traffic access and management plans.

Air Quality and Noise

If the proposed Project is permitted, construction dust and emissions from construction equipment would typically be localized, intermittent, and temporary since pipeline construction would move through an area relatively quickly. During normal operation of the proposed Project, there would be only minor emissions from valves and pumping equipment at the pump stations. Keystone would implement mitigation measures to reduce air quality impacts, including dust control measures and compliance with state and local air quality restrictions.

Construction noise impacts would also be localized, intermittent, and temporary. Noise impacts from operation of the pipeline would be limited to the electrically driven pump stations. During construction, Keystone would limit the hours during which activities with high-decibel noise levels are conducted in residential areas, require noise mitigation procedures, and develop site-specific mitigation plans to comply with regulations. During operations, Keystone would implement a noise control plan to mitigate noise impacts at affected sites and, as necessary, install sound barriers.

5.6 Cultural Resources: Pipeline construction may present a risk to historic and cultural resources unless appropriately addressed through avoidance or mitigation. This risk was a key concern for Indian tribes and other commenters. The Department of Interior in its February 2, 2015 letter to the Secretary reiterated these concerns. The Department concluded a Programmatic Agreement (an agreement with several interested parties that contemplates mitigation of certain cultural resources impacts in the event of construction). The Programmatic Agreement is appended to the Supplemental EIS, and was concluded in consultation with Indian tribes, federal and state agencies, and the permit applicant. The Department incorporated input from Indian tribes to amend the Programmatic Agreement on cultural resources that had been developed for Keystone's 2008 permit application. The Programmatic Agreement describes the processes that would be followed by Keystone and applicable state and federal agencies to identify cultural resources and to avoid or mitigate adverse impacts.

The proposed Project was designed to avoid disturbing cultural resources listed in the National Register of Historic Places (NRHP), those considered to be eligible for listing in the NRHP, and others of potential concern that have not been evaluated for NRHP listing, to the extent possible. With regard to cultural resources that cannot be avoided, Keystone has committed to minimize and mitigate impacts whenever feasible. Additionally, Keystone would implement Unanticipated Discovery Plans in order to ensure minimization of impacts to as-yet-unknown cultural resources that might be inadvertently encountered during construction or operation of the proposed Project.

5.7 Cumulative Effects: The cumulative effects analysis in the Supplemental EIS evaluates the way that the proposed Project's impacts interact with the effects of other past, present, or reasonably foreseeable future actions or projects. The goal of the cumulative impacts analysis is to identify situations where sets of comparatively small individual impacts, taken together, constitute a larger collective impact. Cumulative effects associated with the proposed Project and connected actions vary among individual environmental resources and locations. Generally, where long-term or permanent impacts from the proposed Project are absent, the potential for additive cumulative effects with other past, present, and reasonably foreseeable future projects is negligible.

5.8 Alternatives: The Supplemental EIS provides a detailed description of the categories of alternatives to the proposed Project that were analyzed, as well as the alternative screening process and the detailed alternatives identified for further evaluation.

Consistent with NEPA and Council on Environmental Quality (CEQ) regulations, the Department compared the proposed Project with four reasonable alternatives: a pipeline that partly follows an alternative route (the "I-90 Corridor Pipeline Alternative"), and three different "No Action Alternative" scenarios that could result if the Presidential Permit is not granted and the crude oil from the WCSB and the Bakken formations is carried on a different form of transport.

Consistent with CEQ regulations and the Department's authority, the Supplemental EIS specifically identifies the alternatives that are before the decisionmaker in considering the application and making the national interest determination pursuant to the President's Executive Order 13337: the No Action Alternative (Permit denial) and the proposed Project (Permit approval).

No Action Alternative

The Supplemental EIS separately analyzed three No Action Alternative scenarios, which are described briefly below. The No Action Alternative analysis considers what would likely happen if the Presidential Permit is denied or the proposed Project is not otherwise implemented. It includes the Status Quo Baseline, which serves as a benchmark against which other alternatives are evaluated. Under the Status Quo Baseline, the proposed Project would not be constructed, its capacity to transport WCSB crude would not be replaced, and the resulting direct, indirect, and cumulative impacts that are described in this Supplemental EIS would not occur. The Status Quo Baseline is a snapshot of the crude oil production and delivery systems at January 2014 levels.

The No Action Alternative includes analysis of three alternative transport scenarios that, based on the findings of the market analysis, are believed to meet the proposed Project's purpose (i.e., providing WCSB and Bakken crude oil to meet refinery demand in the Gulf Coast area) if the Presidential Permit for the proposed Project were denied, or if the pipeline were otherwise not constructed. Under the alternative transport scenarios, other environmental impacts would occur in lieu of the proposed Project. The Supplemental EIS includes analysis of various combinations of transportation modes for oil, including

truck, barge, tanker, and rail. These scenarios are considered representative of the crude oil transport alternatives with which the market could respond in the absence of the proposed Project. These three alternative transport scenarios (the Rail and Pipeline Scenario, Rail and Tanker Scenario, and Rail Direct to the Gulf Coast Scenario) are described below.

Rail and Pipeline Scenario: Under this scenario, WCSB and Bakken crude oil (in the form of dilbit or synbit) would be shipped via rail from Lloydminster, Saskatchewan and Epping, North Dakota respectively (the nearest rail terminal served by two Class I rail companies for both locations), to Stroud, Oklahoma, where it would be temporarily stored and then transported via existing and expanded pipelines approximately 17 miles to Cushing, Oklahoma to interconnect with the interstate oil pipeline system. This scenario would require the construction of two new or expanded rail loading terminals in Lloydminster, Saskatchewan (the possible loading point for WCSB crude oil), one new terminal in Epping, North Dakota (the representative loading point for Bakken crude oil), seven new terminals in Stroud, and up to 14 unit trains (consisting of approximately 100 cars carrying the same material and destined for the same delivery location) per day (12 from Lloydminster and two from Epping) to transport the equivalent volume of crude oil as would be transported by the proposed Project.

Rail and Tanker Scenario: The second transportation scenario assumes WCSB and Bakken crude oil would be transported by rail from Lloydminster to a western Canada port (assumed to be Prince Rupert, British Columbia), where it would be loaded onto Suezmax tankers (capable of carrying approximately 986,000 barrels of WCSB crude oil) for transport to the U.S. Gulf Coast (Houston and/or Port Arthur) via the Panama Canal. Bakken crude would be shipped from Epping to Stroud via BNSF Railway or Union Pacific rail lines, similar to the method described under the rail and pipeline scenario. The rail and tanker scenario would require up to 12 unit trains per day between Lloydminster and Prince Rupert, and up to two unit trains per day between Epping and Stroud. This scenario would require the construction of two new or expanded rail loading facilities in Lloydminster with other existing terminals in the area handling the majority of the WCSB for shipping to Prince Rupert. Facilities in Prince Rupert would include a new rail unloading and storage facility and a new marine terminal encompassing approximately 4,200 acres and capable of accommodating two Suezmax tankers. For the Bakken crude portion of this Scenario, one new rail terminal would be necessary in both Epping, North Dakota, and Stroud, Nebraska.

Rail Direct to the Gulf Coast Scenario: The third transportation scenario assumes that WCSB and Bakken crude oil would be shipped by rail from Lloydminster, Saskatchewan, and Epping, North Dakota, directly to existing rail facilities in the Gulf Coast region capable of off-loading up to 14 unit trains per day. These existing facilities would then either ship the crude oil by pipeline or barge the short distance to nearby refineries. As with the rail and tanker scenario, this scenario would likely require construction of up to two new or expanded terminals to accommodate the additional WCSB shipments out of Canada. One new rail loading terminal would be needed in Epping to ship Bakken crude

oil. Sufficient off-loading rail facilities currently exist or are proposed in the Gulf Coast area such that no new terminals would need to be built under this scenario.

Comparison of Alternatives Before the Decisionmaker

The Supplemental EIS provides detailed analysis of the differences between these alternatives. With regard to GHG emissions, during operation of the No Action Alternative transportation scenarios, including rail and combination modes, the increased number of trains along the rail routes would produce GHG emissions from diesel fuel combustion and electricity generation to support rail terminal operations. Annual GHG emissions (direct and indirect) attributed to the No Action transportation scenarios would be greater than for the proposed Project, but those emissions relate solely to the movement of equivalent amounts of oil from Alberta to the Gulf Coast. Construction of the rail terminals would also involve large numbers of truck trips to transport construction materials and equipment. This increased traffic could cause congestion on roads. Increased shipment of crude by rail could reduce rail capacity available for other goods.

Transportation by rail would likely lead to a greater number of injuries and fatalities per ton-mile than transportation by pipeline, as well as a greater number of accidental releases of crude oil and a greater overall volume of crude oil released. However, the average size of an accidental release associated with crude-by-rail transportation is smaller than the average accidental release associated with a pipeline.

Physical disturbance impacts of the No Action Alternative would vary depending upon the modes of transportation chosen by shippers. All three scenarios would require new or expanded facilities, likely concentrated near loading and off-loading terminals.

Nevertheless, expansion of infrastructure would affect fewer acres of land (1,500-6,427) during construction than a new pipeline. During operations, the No Action Alternative would permanently affect between 1,500 acres and 6,303 acres of land, compared to 5,309 acres for the proposed Project.

6.0 Foreign Affairs and Energy Security

6.1 North American Energy Security: Short-term energy security typically refers to security of supply, or a country's ability to procure fuels that satisfy its current energy mix. Over the long-term, however, energy security encompasses broader considerations about the structure, level, and composition of energy supply and demand. Both short-term supply security and long-term efforts to address broader policy goals by reducing demand or moving towards alternative energy sources were common themes in public comments. Recognizing that global energy security is a vital part of U.S. national security, the Department works closely with our international partners to ensure adequate supplies of energy reach the global economy and to help manage geopolitical changes arising from shifting patterns of energy production and consumption. Whether promoting national and regional markets that facilitate financing for transformational and clean energy or inspiring civil society and governments to embrace transparent and responsible development of natural resources, the Department works to ensure energy is employed as a tool for stability, security, and prosperity.

Historically, oil has been a major source of U.S. energy security concerns due to our relatively high volume of net imports, and oil's economic importance and military uses. While U.S. oil imports have abated sharply in recent years, the United States remains a net oil importer. Accordingly, the U.S. national interest in ensuring access to stable, reliable, and affordable energy supplies will persist in the foreseeable future. Furthermore, because oil is traded globally, the United States will remain integrated with global oil markets and subject to global price volatility. Nonetheless, U.S. energy security does not exist in a vacuum and must be weighed in tandem with a number of other critical foreign policy considerations, including climate change and U.S. policies that lay the foundation for a clean energy future.

U.S. policymakers have often viewed oil imports from neighboring countries as beneficial for energy security. As such, Canada's role as the largest and fastest-growing source of U.S. crude imports cannot be dismissed. According to the latest statistics from the Energy Information Administration (EIA), the United States imported 2.88 million bpd of crude oil from Canada in 2014, which accounted for more than 39 percent of total U.S. crude oil imports (net U.S. crude imports were 6.99 million bpd day in 2014) and is an increase of 12 percent over 2013 volumes from Canada. Although domestic production growth from tight oil formations, which is predominately light crude, continues to supplant the majority of international alternatives, U.S. imports of Canadian crude oil are increasing. The vast majority of these imports reach U.S. markets via existing pipeline infrastructure between Canada and the United States. A growing share, however, reaches markets by rail. In 2014 crude imports by rail from Canada exceeded 140,000 bpd. While WCSB rail loading capacity has continued to grow, through August 2015, crude imports by rail from Canada have averaged 103,000 bpd.

Canadian oil is a relatively stable and secure source of energy supply for many reasons, and few countries share all of the political or physical characteristics that enable Canada to remain in this position. Its producing areas are physically close to the U.S. market, and there are limited chokepoints to disrupt trade between Canada and the United States. Canada has a low likelihood of political unrest, resource nationalism, or conflict – above-ground factors that sometimes disrupt oil production in other regions. Additionally, it is not a member of OPEC, which acts to restrict oil production and influence market conditions. The Canadian oil sector is efficiently run, without undue political interference. Canadian oil sands projects have low production decline rates compared to conventional oil fields, providing greater geologic certainty of future supply levels.

The proposed Keystone XL pipeline would serve as a reliable means of transport for U.S. crude oil imports. However, the significance of the pipeline for U.S. energy security is limited. The Supplemental EIS indicates that in most scenarios the proposed Project is unlikely to change significantly the pattern of U.S. crude oil consumption. Alternative and existing pipelines from Canada, crude by rail, and seaborne oil imports could all play a role in different scenarios. In so far as U.S. demand continues to be met in part by foreign crude oil imports, domestic refineries capable of processing heavy crude will

likely maintain access to Canadian crude oil, which will compete with comparable foreign heavy crudes to meet domestic needs.

As with its analysis of the proposed Project's impact on crude flows, the Supplemental EIS recognized that the proposed Project is unlikely to have a meaningful effect on domestic fuel prices. While crude oil prices matter to those involved in producing oil or refining oil into products, most Americans are mainly concerned with the price of gasoline and other refined products. The price of those refined products in the United States continues to be set largely by global crude prices, which are tied to global production and consumption, rather than the availability of pipelines. The findings in the Supplemental EIS have been reinforced by EIA studies that assert that U.S. gasoline prices move with the international benchmark Brent crude oil price rather than WTI. Accordingly, energy security concerns stemming from the proposed Project's impact on domestic fuel prices are largely unwarranted – cross-border pipeline capacity does not measurably translate into lower retail gasoline prices.

As policy makers engage in strategic planning related to the domestic and global energy mix of the future, the link between energy security and climate change is also an important consideration. The 2014 Quadrennial Defense Review and the International Security Advisory Board's report on energy geopolitics highlights the role energy plays in solving the challenge posed by climate change. At present, expected fossil-fuel consumption trends would make it impossible to meet climate change mitigation goals. Ambitious energy policies—on a global scale—are necessary to address the challenge and mitigate risks. To safeguard broader national security interests, energy use must also be sustainable—not just in terms of ensuring available supplies for the future, but also in terms of lowering the impact that energy use is having on the global environment. As countries prioritize and address their energy security needs, including access to affordable and sustainable energy, it is imperative that fundamental reform of the global energy system is pursued to avoid significant growth in greenhouse gas emissions and the correlated costs of climate mitigation and adaptation.

6.2 Relationship with Canada: Canada remains an ardent proponent of the Keystone XL Pipeline and has repeatedly and strongly advocated for the proposed Project at all levels within the U.S. Government. As such, a decision against the proposed Project could temper Canada's willingness to partner with the United States on some bilateral and international issues. A negative permit decision may lead to a cooling of U.S.-Canadian relations and could affect Canadian cooperation on Western Hemisphere issues and international security cooperation. However, the United States' enduring bilateral relationship with Canada, including as it pertains to trade relations and energy interconnectivity, is resilient and is likely to outlast any single foreign policy discrepancy.

Canada is and will remain one of the United States' closest strategic allies. Numerous geographic, defense, commercial, political, environmental, and social ties bind the two countries. We have the biggest and the most consequential economic relationship in the world with over \$2 billion per day in trade. Canada shares U.S. values in the global promotion of democratic governance and free markets and coordinates closely with the

United States on most foreign policy issues. U.S.-Canadian supply chains are interlinked and U.S. and Canadian companies are heavily invested in each other's markets. We recognize Canada's role as a secure conduit for crude oil to reach the U.S. market, and we acknowledge the United States' role as the Canadian energy sector's number one customer.

6.3 Climate Change-Related Foreign Policy Considerations: The State Department's consideration of the application for the proposed Project is informed by the broader context of climate change and the leadership role that the United States has and must continue to play internationally on climate change. More and more frequently, national governments have placed climate change-related issues on the agendas of a range of high-level bilateral and multilateral negotiations, including among heads of state and foreign ministers, making U.S. credibility on the fight to combat climate change a major factor in determining U.S. foreign policy success.

The vital importance of climate change leadership to U.S. foreign policy is not surprising:

- The science has made clear that to move onto an emissions trajectory consistent with keeping the global temperature increase below 2 degrees Celsius above pre-industrial levels, the world needs to be making a decisive shift to lower carbon energy sources now.
- Countries around the world widely accept the conclusive scientific evidence that climate change is occurring now, and that human activity is the dominant cause of increasing temperatures. 2014 was the warmest year on record, following on a succession since 2000 of 13 of the warmest years on record, and global GHG concentrations continue to rise in the atmosphere.
- There is increasing understanding by governments, experts, and the public that every region of the world is affected by the negative impacts of climate change, including the likelihood of more frequent and intense droughts, floods, and storm surges in some regions; rising sea levels; and impacts on a host of habitats that support communities and livelihoods. There is further understanding that GHG emissions and climate change do not respect national boundaries.
- Additionally, as indicated in the 2014 Quadrennial Defense Review, the U.S. national security community has recognized that climate change is a threat multiplier that will aggravate stressors abroad such as poverty, environmental degradation, political instability, and social tensions. This assessment is shared by many allies, including the United Kingdom, Germany, and France. Indeed, the Global Security Defense Index prepared by the American Security Project indicates that about 70 percent of nations have explicitly stated that climate change is a national security concern.

A broad range of countries, both developed and developing, are implementing plans to reduce their emissions and to increase the resilience of their economies. How the U.S. is

viewed as addressing climate change may affect the U.S. relationship with many of those countries, especially those that are vulnerable to climate change impacts, across a range of foreign policy priorities.

Over the past few years, the United States has acted concertedly to reduce emissions and has taken other actions to combat climate change across relevant sectors. This has generally involved transitioning wherever practicable away from more-polluting to less-polluting sources of energy, driving toward greater energy efficiency, and shifting away from more potent greenhouse gases. Other governments follow the United States' domestic rulemaking and policy process with interest, including:

- The adoption and implementation of the Clean Power Plan, which will advance the transition to clean energy sources, including natural gas and renewable energy;
- The marked increase in fuel economy standards for light- and heavy-duty vehicles, which has served to reduce combustion of fossil fuels by increasing vehicle efficiency and promoting a transition to advanced vehicles;
- Increases in efficiency standards in a broad range of household and commercial appliances and federal buildings, which will save individual Americans thousands of dollars; and
- A range of actions to reduce highly potent greenhouse gases, including methane and hydrofluorocarbons.

The United States is the world's largest economy and second-largest GHG emitter. As such, strong U.S. domestic policy to combat climate change sets an important example for other countries and puts an "action speaks louder than words" credibility behind the U.S. message. The United States' ambitious efforts at home help spur ambitious climate action by others, driving global emissions trends in the right direction. In short, the extent to which the United States takes action and is understood to be a leader is directly correlated to the United States' effectiveness in encouraging other countries to step up and take strong action on climate change.

The impact that U.S. climate-related actions can have on those of other countries was evident in the U.S.-China joint announcement in 2014 of the two nations' respective actions to reduce their emissions, as well as the 2015 joint Presidential statement in which China announced it will launch its national carbon emissions trading system in 2017. China's specific commitments to limit its emissions mark a major advance in its approach, and were surely encouraged by its assessment of the corresponding U.S. actions. Likewise, the more than 150 countries that have come forward with their emissions targets were similarly encouraged by U.S. leadership.

Further, the U.S. commitment to combatting climate change through its own domestic actions and policy decisions has enhanced and will enhance prospects for reaching a global climate agreement in December of 2015. Over the course of this year, countries have been determining the actions they will undertake in the context of this agreement to reduce their domestic emissions over the next 10-15 years, and strong U.S. efforts at home have had a positive impact. Sustained U.S. climate leadership will also help to encourage implementation of targets countries have put forward, and continued progress worldwide in combatting climate change. Advancing U.S. climate change policy in the international arena is also one of the United States' best tools to reduce the significant and costly adverse impacts of climate change at home.

As such, it is strategically important for the U.S. to continue to play a leadership role in the worldwide fight against climate change, and the perception of U.S. leadership is enhanced when the United States Government is seen as taking strong action to combat climate change. It is important, therefore, to understand that the decision on whether to approve the permit application for the proposed Project is not just a matter of high domestic interest and scrutiny, but also one that is likely to have international ramifications. Many will see it as a test of U.S. willingness to take significant and difficult decisions as part of a broader effort to address climate change.

The broad perception of the oil that would be carried by the proposed Project is that it would be "dirty" – more GHG-intensive over its lifecycle than alternate sources of crude, owing to the combination of the use of the heavy crude itself with the far more GHG-intensive process of extraction. This perception is supported by the findings in the SEIS. Whether or not that oil would still find other transport to market in the absence of the proposed Project (that complex issue is analyzed in the Supplemental EIS), the general perception is that a decision to approve the pipeline would pave the way for the long-term and intensive extraction and importation of that oil into the United States. Issuing a permit for the proposed Project would thus be understood at this time as a decision to facilitate particularly GHG-intensive crude imports into the United States for the long term, undermining the power of U.S. example as a leader in promoting the transformation to low-carbon economies.

Therefore, a decision to approve this proposed Project would undermine U.S. objectives on climate change; it could call into question internationally the broader efforts of the United States to transition to less-polluting forms of energy and would raise doubts about the U.S. resolve to do so. In turn, this could raise questions for some countries about how aggressively they should combat climate change domestically, and potentially reduce the United States' ability to advance climate and broader objectives with allies and other partners in various bilateral and multilateral contexts. An approval of the proposed Project would also undermine U.S. national security objectives as described in the 2015 National Security Strategy, which identified climate change and the reduction of global emissions as a U.S. national security priority, and limit the United States' ability to combat the negative impacts of climate change within U.S. borders. Conversely, a decision to deny the permit would support U.S. relationships with countries where

climate issues are important and encourage actions that combat climate change and benefit the United States.

7.0 Basis for Decision

Under the authority delegated to him by the President of the United States, the Secretary of State has determined that it would not serve the national interest to issue a Presidential Permit to TransCanada Keystone Pipeline L.P. to construct, connect, operate, and maintain pipeline facilities at the United States-Canada border in Phillips County, Montana, as part of the proposed Project. The Secretary of State has considered Keystone's Presidential Permit application filed with the Department on May 4, 2012, and all input received over the course of the Department's review. The determination to deny a Presidential Permit for the proposed Project is based on consideration of a broad range of factors, including the following assessments:

- While the proposed Project would have a limited benefit for energy security by providing additional infrastructure for the dependable supply of crude oil (and President Obama has previously emphasized the importance of sourcing foreign oil from our "neighbors like Canada and Mexico that are stable and steady and reliable sources"), the absence of the proposed Project will not prevent Canada from continuing to serve as a secure source of energy supply. Nor is it likely to significantly increase demand for crude imports from other, less reliable sources in most circumstances. The negligible-to-limited benefit to energy security potentially provided by the proposed Project is outweighed by the Secretary's assessment of the importance of the United States leading where it can by making difficult choices on issues of climate change at this time.
- Even if the proposed Project were approved, any impact on prices for refined petroleum products would be minimal. Oil trade is driven by commercial considerations and occurs in the context of a globally traded market in which crude oil and products are relatively fungible. The market continually adjusts both logistically and in terms of price to balance global supply and demand. As a result, the level or origin of U.S. oil imports has a minimal impact on the prices U.S. consumers pay for refined products.
- Uncertainties about the future growth of oil sands production remain. Oil prices are volatile, particularly over the short term, and long-term trends that drive the investment decisions of oil-sands producers are difficult to predict. Since production remains uncertain post 2018, the corresponding amount of transportation infrastructure required also remains uncertain. While the proposed Project by itself is unlikely to significantly impact the level of GHG-intensive extraction of oil sands crude or the continued demand for heavy crude oil at refineries in the United States, it is critical for the United States to prioritize actions that are not perceived as enabling further GHG emissions globally. Irrespective of the uncertainty highlighted above, an approval of the proposed

Project would facilitate transportation into our country of a highly carbon intensive energy source.

- The Department recognizes the importance of the proposed Project to Canada and places great significance on maintaining strong bilateral relations. Canada is one of the United States' closest strategic allies, and our economies are deeply integrated with over \$2 billion in trade per day. Although the Government of Canada has indicated its strong interest in the completion of the Keystone XL pipeline and a denial of the permit will have a negative impact on our relationship, our strong and historic relationship with Canada will endure. The United States will continue to work with Canada to ensure our shared interests in energy, environmental, and economic issues prosper.
- The Department has considered the concerns of some Indian tribes raised in the context of the proposed Project regarding sacred cultural sites and avoidance of adverse impacts to the environment, including to surface and groundwater resources.
- The Department has considered the economic benefits of the proposed Project for the United States. During construction over a two-year period, spending on the proposed Project would support approximately 42,100 jobs (direct, indirect, and induced jobs combined), of which approximately 3,900 would be direct construction jobs. The majority of these jobs would be short-term in nature. According to the applicant, were the proposed project to enter service, operations would require approximately 50 employees in the United States, consisting of 35 full-time employees and 15 temporary contractors. The proposed Project would also generate tax revenue for communities in the pipeline's path and it is estimated that pipeline activity would contribute .02 percent to the national G.D.P. based on 2012 statistics. These economic benefits are meaningful, but in the assessment of the Secretary of State, they do not outweigh the fact that an approval would undermine the United States' successful foreign policy engagement in efforts to combat climate change on a global scale. Domestically, the United States must prioritize the development of a green economy, and work to transition to jobs that catalyze a clean energy future. Clean energy jobs would better utilize the skilled manufacturing workforce here in the United States and ensure that American workers are at the forefront of an industry that is in increasingly high demand throughout the world.
- This is a critical time for action on climate change. The science is clear and widely accepted, including among foreign governments, that climate change is occurring now, that human activity is the dominant cause, and that climate change impacts are already being felt around the world. These impacts include, among others, sea-level rise, and more frequent and intense droughts, floods, and storm surges. The decision to approve or deny a Presidential Permit for the proposed Project will be understood by many foreign governments and their citizens as a test of U.S. resolve to undertake significant and difficult decisions as part of a

broader effort to address climate change. In the judgment of the Secretary of State, the general understanding of the international community is that a decision to approve the proposed Project would precipitate the extraction and increased consumption of particularly GHG-intensive crude oil. Such a decision would be viewed internationally as inconsistent with the broader U.S. efforts to transition to less-polluting forms of energy and would undercut the credibility and influence of the United States in urging other countries to put forward ambitious actions and implement efforts to combat climate change, including in advance of the December 2015 climate negotiations.

- United States actions relating to climate have a significant leveraging effect on global emissions trends. The 2015 National Security Strategy identifies climate change and the reduction of global emissions as a national security priority for the United States. The large majority of greenhouse gas emissions are produced outside the United States, and the extent to which other countries take significant actions to reduce their emissions will largely determine the severity, scope, and timing of the negative impacts of climate change in the United States. Climate change serves as a threat multiplier. U.S. leadership on climate change strengthens our leverage with our international partners and helps enable us to convince other countries to make and implement meaningful reductions in their domestic emissions, to support our positions in international climate negotiations, and to support our objectives in bilateral and multilateral contexts.
- There would be a variety of other potential environmental and cultural impacts associated with the proposed Project (many of which Keystone agreed to mitigate), just as there would be for alternative methods of transporting crude oil. Comparing the non-GHG potential environmental impacts and cultural impacts of the proposed Project with those of alternatives for transporting crude oil yields a mixed picture. All of these potential impacts were part of the Department's consideration.

President Obama has made clear that “[t]he net effects of the pipeline’s impact on our climate will be absolutely critical to determining whether this project can go forward.”¹ While the permitting decision involves weighing many different policy considerations, a key consideration at this time is that granting a Presidential Permit for this proposed Project would undermine U.S. climate leadership and thereby have an adverse impact on encouraging other States to combat climate change and work to achieve and implement a robust and meaningful global climate agreement. Strong climate targets and an effective global climate agreement would lead to a reduction in global GHG emissions that would have a direct and beneficial impact on the national security and other interests of the United States. The world will continue to use fossil fuels, we know this. The Department will continue to evaluate applications for cross-border fossil fuel pipelines on their merits. But approving the proposed Project would not serve the national interest.

¹ Speech by President Barack Obama at Georgetown University, June 25, 2013.

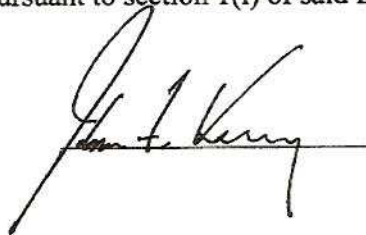
8.0 National Interest Determination

Pursuant to the authority vested in me by the President under Executive Order 13337 of April 30, 2004 and subject to satisfaction of the requirements of sections 1(h) and 1(i) of Executive Order 13337, I hereby determine that issuance of a permit to TransCanada Keystone Pipeline, L.P., a limited partnership organized under the laws of the State of Delaware, to construct, connect, operate, and maintain facilities at the border of the United States and Canada for the transport of crude oil from Canada to the United States across the international boundary in Phillips County, Montana, would not serve the national interest.

The Secretaries of Defense, Interior, Commerce, Energy, Homeland Security and Transportation, the Attorney General, and the Administrator of the Environmental Protection Agency will be notified of this determination, and the determination will be final unless further consultations are required or the matter must be referred to the President for consideration and final decision pursuant to section 1(i) of said Executive Order.

NOV 3 2015

Date

A handwritten signature in black ink, appearing to read "John F. Kerry", is written over a horizontal line.