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TransCanada
In business to deliver

January 26, 2017

Richard W. Westerdale II
Director,
Policy Analysis and Public Diplomacy
U.S. Department of State
Bureau of Energy Resources
2201 C Street, NW – Room 4422
Washington DC 20520

Re: TransCanada Keystone Pipeline, L.P.
Application for Presidential Permit for Keystone XL Pipeline Project

Dear Mr. Westerdale:

Enclosed for filing is the Application of TransCanada Keystone Pipeline, L.P. for a Presidential Permit authorizing the construction, connection, operation, and maintenance of pipeline facilities for the importation of crude oil to be located at the international border between the United States and Canada at Phillips County, Montana. Authorization is being requested, pursuant to Executive Order 13337, in connection with Keystone's proposed international pipeline project – the Keystone XL Pipeline Project (Project). This application is also submitted consistent with the Presidential Memorandum to the Secretaries of State, the Army, and the Interior regarding Construction of the Keystone XL Pipeline, signed by the President on January 24, 2017.

If you have any questions regarding the enclosed Application, please contact Jim White, Director, U.S. Regulatory Law – Liquids at (202) 682-4701 x 222.

Very truly yours,

Kristine L. Delkus

Kristine L. Delkus
TransCanada Corp.
Executive Vice President
Stakeholder Relations & General Counsel

UNITED STATES OF AMERICA
DEPARTMENT OF STATE

TRANSCANADA KEYSTONE PIPELINE, L.P.) NO. _____

APPLICATION OF TRANSCANADA KEYSTONE PIPELINE, L.P. FOR A PRESIDENTIAL PERMIT AUTHORIZING THE CONSTRUCTION, CONNECTION, OPERATION, AND MAINTENANCE OF PIPELINE FACILITIES FOR THE IMPORTATION OF CRUDE OIL TO BE LOCATED AT THE UNITED STATES-CANADA BORDER

Pursuant to Executive Order 11423, 33 Fed. Reg. 11714 (Aug. 16, 1968), as amended, and Executive Order 13337, 69 Fed. Reg. 25229 (Apr. 30, 2004), TransCanada Keystone Pipeline, L.P. ("Keystone") hereby submits its application to the United States Department of State ("Department") for a Presidential Permit authorizing the construction, connection, operation, and maintenance of pipeline facilities for the importation of crude oil, to be located at the international border between the United States and Canada, at Phillips County, Montana (the "border crossing facilities"), as more fully described herein. Authorization to construct, connect, operate, and maintain the border crossing facilities is being requested in connection with Keystone's proposed international pipeline project – the Keystone XL Project ("Project"). If this application is approved, the Project will allow transportation of crude oil production from the Western Canadian Sedimentary Basin ("WCSB") and the Bakken supply basin in Montana and North Dakota, to a point located on the existing Keystone Pipeline system at Steele City, Nebraska, which will allow for the delivery of that production to existing refinery markets in the Texas Gulf Coast area.

The Project will serve the national interest of the United States by providing a secure and reliable source of Canadian crude oil to meet the demand from refineries and

markets in the United States, by facilitating the delivery of domestic supplies, and by reducing U.S. reliance on comparable foreign heavy crude oils,[1] particularly declining supplies from Mexico and Venezuela.[2] The project also will provide significant economic and employment benefits to the United States, with minimal impacts on the environment.

I. BACKGROUND

Keystone submitted an application for a Presidential Permit for the Keystone XL Pipeline Project on September 19, 2008. The Department reviewed that application for over three years and issued Draft and Supplemental Draft Environmental Impact Statements in April 2010 and 2011, respectively, and a Final Environmental Impact Statement (FEIS) on August 26, 2011, finding that the potential impacts associated with construction and normal operation of the project suggest there would be no significant impacts to most resources along the project corridor. The FEIS was developed with the participation of numerous cooperating and assisting federal, state, and local agencies and was prepared consistent with the National Environmental Policy Act ("NEPA") 42 U.S.C. §§ 4321, et seq.

On November 10, 2011, the Department announced that it was delaying its decision on the Presidential Permit application in order to allow additional time to gather information regarding potential alternative routing in Nebraska. In late December 2011, Congress included a provision in the Payroll Tax Cut Extension Act requiring the President to make a decision on the Presidential Permit within 60 days. On January 18,

[1] State Department Record of Decision/National Interest Determination, November 2015, at pp.7-8 (Keystone XL ROD/NID).
[2] Final Supplemental Environmental Impact Statement, January 2014, at Sections 1.4.2.6 and 1.4.2.7.

2012, the Department announced its determination that the project – as presented and analyzed at that time – did not serve the national interest. The determination was based solely on the rationale that the time provided for a decision was not adequate to complete the national interest review of the project, including specifically the assessment of potential alternative pipeline routes that avoid the Sandhills region in Nebraska. The President's acceptance of the Department's recommendation to deny the Permit rested on the same reasoning. In announcing the denial of Keystone's application, the Department expressly stated that the denial did not preclude any subsequent permit application or applications for similar projects.

By letter dated February 27, 2012, Keystone advised the Department that it intended to file a Presidential Permit application in the near future. Keystone further advised the Department that Keystone had concluded the portion of the previously proposed Keystone XL Project that would directly serve the Gulf Coast had its own independent utility as the stand-alone Gulf Coast Project.[3] Keystone acquired the remaining permits and constructed the Gulf Coast Project in 2012 and 2013. Commercial operation of the Gulf Coast pipeline commenced in January 2014. The Gulf Coast pipeline will provide capacity to deliver up to 830,000 bpd of crude oil from Cushing, Oklahoma to the Gulf Coast refinery market.

On May 4, 2012, Keystone submitted a new application for a Presidential Permit for a more limited Keystone XL Project, which included the former "Steele City Segment" of the original project. In its application, Keystone incorporated by reference the FEIS prepared by the Department for the originally proposed Keystone XL Project.

[3] Keystone's February 27, 2012 letter included a detailed appendix setting forth the basis for the independent utility of the Gulf Coast Project.

The Department reviewed Keystone's 2012 application for an additional three and a half years. It was the subject of a Draft Supplemental EIS (March 2013) and a Final Supplemental EIS (FSEIS, January 2014), both of which again concluded the Project would not have significant adverse impacts to the environment. The Department's review of Keystone's 2008 and 2012 applications involved the opportunity for, and consideration of, millions of public comments.

Almost seven years after Keystone's initial application, and notwithstanding its issuance of no less than five favorable Environmental Impact Statements, the Department issued a negative Record of Decision and National Interest Determination on November 3, 2015. The Department found that issuance of a Presidential Permit would not serve the national interest primarily on the basis that such action would undermine U.S. climate leadership in the perception of other nations. While this conclusion was inconsistent with the Department's own factual findings, nonetheless, the President and the Secretary announced the denial of Keystone's application on November 6, 2015.

II. IDENTIFYING INFORMATION

Communications and correspondence with respect to this application should be directed to the following persons:

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The identity of the applicant is TransCanada Keystone Pipeline, L.P., a limited partnership, organized under the laws of the State of Delaware and owned by affiliates of TransCanada Corporation (TransCanada), a Canadian public company organized under the laws of Canada. Keystone's primary business address is 700 Louisiana Street, Houston, Texas, 77002. Keystone's affiliate, TC Oil Pipeline Operations Inc. will be the operator of the Project. TC Oil Pipeline Operations Inc. is also owned by affiliates of TransCanada.

TransCanada has more than 65 years experience in the responsible development and reliable and safe operation of North American energy infrastructure including crude oil and natural gas pipelines, power generation, gas storage facilities, and projects related to liquefied natural gas facilities. TransCanada currently operates the 2,639-mile Keystone Pipeline system, which currently has the capacity to deliver up to 591,000 bpd of Canadian crude oil into U.S. refining and terminalling markets. The U.S. mainline segment of the Keystone Pipeline system extends from the North Dakota-Canada border to Wood River and Patoka, Illinois. The Keystone Cushing Extension extends from Steele City, Nebraska, to Cushing, Oklahoma. TransCanada also operates the Gulf Coast Pipeline, which connects with the Keystone Pipeline system at Cushing and delivers crude oil to U.S. Gulf Coast refineries. TransCanada also constructed the Houston Lateral Pipeline from Liberty County, Texas to refineries near Houston, which commenced commercial service in July 2016. Since 2010, the Keystone Pipeline System has safely delivered over 1.4 billion barrels of Canadian and U.S. domestic crude oil to markets in the U.S.

In addition to its crude oil pipeline operations and projects, TransCanada operates a network of natural gas pipelines that extends more than 56,100 miles, tapping into virtually all major gas supply basins in North America. TransCanada is the continent's leading provider of gas storage and related services with 664 billion cubic feet of storage capacity. A large independent power producer, TransCanada currently owns or has interests in over 10,700 megawatts of power generation in Canada and the United States.

As of September 30, 2016, TransCanada had total assets of approximately U.S. $66.8 billion. For the year ended December 31, 2015, TransCanada had a net loss attributable to common shares of approximately U.S. $0.90 billion and funds generated from operations of approximately U.S. $3.26 billion. Attached as Exhibit A is a summary document demonstrating TransCanada's fitness to develop, construct, connect, operate, and maintain the Project as a major cross-border pipeline system.

III. DESCRIPTION OF FACILITY

Keystone requests a Presidential Permit authorizing it to construct, connect, operate, and maintain the specific border crossing facilities associated with the proposed Keystone XL Project, as shown on Exhibit B hereto. Consistent with Department policy, the border crossing facilities are defined as a 1.2 mile segment of 36-inch diameter pipeline extending downstream from the United States border, in Phillips County, Montana up to and including the first pipeline isolation valve, located at Milepost 1.2, where the first pump station in the United States is proposed to be located. Exhibit B shows: (i) a pipeline route map reflecting the location of the border crossing facilities; (ii) an engineering drawing depicting the border crossing; and, (iii) photos of the proposed construction site.

The portion of the border crossing facilities from Milepost 0.0 to Milepost 0.93 will be located on lands administered by the U.S. Bureau of Land Management (BLM). After the denial of its Presidential Permit application in November 2015, Keystone voluntarily withdrew, without prejudice, its application for authorization from BLM under the Mineral Leasing Act of 1920, as amended (30 USC 181 et seq.) and the Federal Land Policy and Management Act, as amended (43 USC 1701), to permit construction and operation of the proposed facilities at those locations, as well as across 46 additional miles of federal lands in Montana. Keystone will resubmit its application to BLM in short order. The portion of the border crossing facilities from Milepost 0.93 to Milepost 1.2 will be located on land owned by the State of Montana. Keystone is in the process of acquiring a lease for that land from the State.

The technical specifications of the line pipe to be utilized for the border crossing facilities, and the Project as a whole, are set forth in Exhibit C hereto. The pipeline will be constructed and operated in compliance with the regulations of the United States Department of Transportation, Pipeline and Hazardous Materials Safety Administration (PHMSA) as set forth at 49 CFR Parts 194 and 195. In addition, Keystone has agreed to adopt and comply with 59 Special Conditions developed by PHMSA and included at Appendix Z to the Department's January 2014 FSEIS prepared for the Keystone XL Project.

The border crossing facilities are intended to transport crude oil as an integral part of the proposed Project -- an international project designed to transport Canadian crude oil from the WCSB, and, subject to commercial demand, domestic U.S. crude oil production from the Bakken supply basin in Montana and North Dakota, to refinery

markets in the U.S. Gulf Coast region. Specifically, Keystone proposes to construct and operate a crude oil pipeline and related facilities from an oil supply hub near Hardisty, Alberta, Canada to the northernmost point of the existing Keystone Pipeline Cushing Extension at Steele City, Nebraska, which will provide access to existing refinery markets in the Texas Gulf Coast area. Subject to commercial demand, the related Bakken Market Link Project would include the construction of "on-ramp" facilities in Fallon County, Montana to allow Bakken crude oil to access the pipeline system for delivery to Steele City and then to the Gulf Coast. Maps depicting the previously approved Keystone XL Pipeline route in Montana and South Dakota are provided in the FEIS (Figures 2.1-1 and 2.1-2).[4] The Bakken Marketlink Project is described as a connected action to the Keystone XL Project at Section 2.5.3 and Figure 2.5.3-1 of the 2011 FEIS.

In 2012, Keystone identified alternative routing in Nebraska that avoided the "Sandhills" region and submitted that proposed alternative route to the Nebraska Department of Environmental Quality (NDEQ) for evaluation under Nebraska law. The NDEQ completed its evaluation and sent it to then-Governor Heineman in December 2012. In January 2013, the Governor advised the Secretary of State that he approved of the revised route in the State. Subsequently, the Nebraska statute was the subject of litigation in Nebraska courts. To avoid uncertainty, Keystone intends to submit an

[4] The portion of the proposed route through Montana was approved by the Montana Department of Environmental Quality (MDEQ) in the Certificate of Compliance issued to Keystone on March 30, 2012 under the Montana Major Facilities Siting Act. The MDEQ was a cooperating agency in the DOS NEPA review of the original Keystone XL application. The MDEQ approved route is included as part of the preferred route selected in the FEIS. See FEIS at p. 4-75. The portion of the proposed route through South Dakota was approved by the South Dakota Public Utilities Commission in a Final Decision and Order issued in March 2010 (and an amended Final Decision and Order in June 2010), approving construction of the Project in the state. The SDPUC accepted Keystone's four-year Certification in January 2016.

application for route approval to the Nebraska Public Service Commission under Nebraska's Major Oil Pipeline Siting Act[5] shortly.

There will be 18 pump stations along the pipeline route in the U.S. The project will also include additional pumping capacity at existing pump stations, as well as, two (2) new pump stations along the Keystone Cushing Extension in Kansas. Along the Gulf Coast Pipeline, there will be one new pump station in Oklahoma and three new pump stations in Texas.

The Project will have an initial nominal capacity of 830,000 bpd. Construction of the proposed Project is expected to commence after issuance of the remaining outstanding permits, including the Presidential Permit requested herein, and the Project is planned to be placed into service within two years of commencement of construction.

In Canada, approximately 329 miles of new 36-inch pipeline will be constructed from Hardisty, Alberta to Monchy, Saskatchewan where it will cross into Phillips County, Montana. Review, approval, and construction of the proposed Canadian facilities are discussed below at Section X.

IV. NATIONAL INTEREST

Approval of Keystone's application for a Presidential Permit would clearly be in the national interest of the United States for a number of reasons:

- The proposed Project would enhance the United States' energy security by providing additional critically important infrastructure for the delivery of a dependable supply of crude oil from Canada, as well as facilitating the delivery

[5] Nebraska Revised Statute Section 57-1401 et seq.

of domestic supplies. Due to its unique physical and political characteristics, Canada is the most secure, stable, and reliable source of imported crude oil that is required by U.S. refinery markets to provide the products needed to sustain the American economy and standard of living. Its producing areas are physically close to the U.S. refinery markets. They have low production decline rates compared to conventional oil fields, which provides greater geologic certainty of future supply levels. As a neighboring country, there are limited chokepoints to disrupt trade between Canada and the United States. Canada is not a member of the Organization of Petroleum Exporting Countries, which acts to restrict oil production and influence market conditions. It also has a low likelihood of political unrest, resource nationalism, or conflict – factors that sometimes disrupt oil production in other regions (See Keystone XL ROD/NID, at p. 24).

- The proposed Project increases the diversity of supplies among the worldwide crude oil sources at a time of considerable tension in other major oil producing countries and regions. Increased output from WCSB can be utilized by a growing number of refineries in the United States that have access and means of transport for these increased supplies (See the Alberta Clipper ROD/NID September 3, 2009, at p. 25).
- Access to the WCSB shortens the transportation pathway for a sizable portion of U.S. crude oil imports. Western Canadian crude oil supplies represent the largest and closest foreign supply source to domestic refineries that do not require many days or weeks of marine transportation (See the Alberta Clipper ROD/NID September 3, 2009, at p. 25).

- Issuance of a Presidential Permit for the proposed Project would enhance the United States' relationship with Canada, its most important trade partner and key ally.
- The proposed Project would create significant employment benefits in the form of tens of thousands of well-paying jobs and associated earnings throughout the United States. This includes direct jobs, which are jobs at firms that are awarded contracts for goods and services, including construction, directly by Keystone, as well as jobs that would result from indirect and induced spending. (See Section 4.10.3 of the FSEIS).
- The proposed Project would provide substantial economic benefits to the United States. As found in the FSEIS, those benefits would include a multi-billion dollar contribution to the U.S. GDP and significant property tax revenues, as well as sales and use and other tax revenues, to counties and states along the proposed Project route. Construction of the proposed Project is expected to contribute approximately $3.4 billion to the U.S. GDP, which 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. Property tax revenues generated from the construction camps, alone, would be approximately $4 million. The total estimated property tax from the proposed Project in the first full year of operations would be about $55.6 million spread across 27 counties in three states. Additionally, sales and use taxes revenue from the construction of the proposed Project would be approximately $66 million.

These revenues could help to ease the tax burden on ordinary Americans (See Section 4.10.3 of the FSEIS).

- Importantly, issuance of a Presidential Permit for the proposed Project would send a signal to American industry that permitting decisions for critical infrastructure projects will be assessed based on their merits and based on the relevant facts; that these reviews will be conducted in a timely, fair, and predictable manner; and that projects will not be rejected based on alleged perceptions or political considerations. This would allow American businesses and others wishing to invest in infrastructure development in the U.S. to once again rationally plan and implement large investments, putting Americans to work, and benefitting the economy in general.

V. SIMILAR FACILITIES

The nearest similar crude oil pipeline facilities to the proposed border crossing facilities are those of the Express Pipeline system. Those facilities cross the border approximately 100 miles west of the proposed Project. Because of the distance, the Express facilities fall outside the coverage of the maps of the proposed Project; however, the Express facilities may be identified on any commercial crude oil map. Nearby natural gas pipeline facilities owned by Northern Border Pipeline (an affiliate of Keystone) and Foothills Pipeline are shown on Exhibit B.

VI. CONSTRUCTION PLAN

The design and procedures for construction of the Project are discussed in detail in Chapter 2 of the FEIS and Chapter 2 in the FSEIS. In addition, the project will be

constructed in conformance with a detailed Construction Mitigation and Reclamation Plan ("CMRP") that is set forth at Appendix G (Volume 7) of the FSEIS. Further, the Project will be constructed in compliance with all conditions included in applicable permits. Permitting and approvals for the Project are discussed elsewhere in this application and in the FSEIS (Section 1.9).

VII. FINANCING AND RATES

The capital cost of the U.S. portion of the Project, from the U.S-Canada border to Steele City, Nebraska, is estimated to be U.S. $5.3 billion. The project is anticipated to be financed through a combination of internally generated funds, bank financing, and access to capital markets.

The rates for crude oil transportation through the U.S. portion of the Project will be subject to regulation by the Federal Energy Regulatory Commission ("FERC"). Keystone anticipates there will be two categories of services offered:

1) Committed or term service – Keystone is proposing long-term contracts with discounted rates and a fixed/variable rate design. The rates vary with contract term, with lower rates offered for longer terms. The fixed portion of the rate is based on levelized 10 or 20-year contracts and will not change over the term of the shipper's contract. The fixed portion of the rate is designed to recover the capital invested and is designed on a postage stamp basis. The variable portion of the rate is a flow-through of the actual operating costs, adjusted annually.

2) Uncommitted or spot service – Keystone will offer service to non-contract shippers on a month-to-month basis at a posted spot rate. The spot rate will be subject to indexing, as permitted by FERC.

VIII. HISTORIC PRESERVATION

In compliance with federal laws enacted to protect cultural resources from damage resulting from federally funded or permitted activities, including the National Historic Preservation Act, cultural resource investigations were conducted for each state crossed by the proposed Project. These investigations were conducted in consultation with the State Historic Preservation Officers ("SHPOs") for each state and the Department. A discussion of the results of those surveys and the concurrence of the SHPOs is provided in Section 3.11.3 (Volume 2) of the FSEIS. Additional surveys of previously un-surveyed tracts in Montana, South Dakota, and Nebraska, as well as treatment plans and mitigation plans, have been filed with Department and respective SHPOs under the terms of the Programmatic Agreement (PA) for Department review and concurrence.

The Department conducted extensive government-to-government consultations with Native American tribes along the Project route in Montana, South Dakota, and Nebraska.[6] Those consultations are summarized in Sections 1.6 and 3.11.4.3 of the FSEIS and the results of those consultations are incorporated into the PA.

[6] In the course of the eight years since DOS began reviewing the proposed Project, 124 face-to-face meetings with tribal members were held, 446 phone conversations, 3,690 emails, and 1,759 letters were exchanged between DOS and the tribes.

IX. OTHER U.S. APPROVALS

Table 1.9-1 of the FSEIS provides a list of the federal and state permits, licenses, approvals, and consultation requirements applicable to the Project in the United States. Keystone has worked extensively with the BLM on a Plan of Development (POD) for construction of the Project on federally managed land. Upon denial of its 2012 Presidential Permit application, Keystone withdrew its application to BLM without prejudice. Keystone will resubmit its application shortly. Keystone will also file with the U.S. Army Corps of Engineers for authorization to utilize Nationwide Permit 12 issued under Section 404(e) of the Clean Water Act, with respect to wetland and waterbody crossings.

Keystone has completed the South Dakota Public Utilities Commission (SDPUC) process under the Energy Conversion and Transmission Facilities Act and received a Final Decision and Order from the SDPUC in March 2010 and an amended Final Decision and Order in June 2010, in Docket HP09-001, approving construction of the Project in the state. On January 21, 2016, the SDPUC issued a Final Decision and Order in Docket HP14-001, accepting Keystone's Certification that the Project continues to meet the conditions upon which the 2010 permit was issued. An appeal from that order is pending in South Dakota Circuit Court.

The Montana Department of Environmental Quality (MDEQ) was a cooperating agency in the development of the FEIS. The FEIS incorporates the MDEQ construction specifications as well as the route variations that were adopted by the MDEQ in Montana (Appendix I, Volume 6). The MDEQ issued a Certificate of Compliance under the Major Facility Siting Act (MFSA) to Keystone on March 30, 2012.

As noted, Keystone will submit an application to the Nebraska Public Service Commission in early 2017 for approval of its proposed routing in Nebraska. The proposed route will be essentially the route previously evaluated by the NDEQ in 2012 and approved by the Nebraska Governor in 2013 and included in the FSEIS review. Keystone expects the Nebraska alternative route selection process to be complete in 2017.

Keystone has filed for the majority of its required county and local permits and approvals for Montana and South Dakota. With respect to the other outstanding permits and approvals, Keystone will file these permits and approvals prior to construction.

X. CANADIAN APPROVALS

In Canada, approximately 329 miles of new 36-inch pipeline will be constructed from Hardisty, Alberta to Monchy, Saskatchewan where it will cross into Phillips County, Montana. Review and approval of the proposed Canadian facilities is subject to the jurisdiction of the Canadian National Energy Board ("NEB") as well as various local, municipal, provincial and other federal authorities.

The Canadian portion of the Project will cross provincial and international boundaries and, accordingly, has been subject to the regulatory oversight of the NEB. The NEB issued a Certificate of Public Convenience and Necessity ("CPCN") under section 52 of the National Energy Board Act ("NEB Act") authorizing construction and operation of the Project on April 27, 2010. In its Reasons For Decision (OH-1-2009), the NEB determined:

- That taking into account the implementation of proposed mitigative measures and those set out in the CPCN conditions, the Project is not likely to cause significant adverse environmental effects.

- That the Project is and will be required by the present and future public convenience and necessity.

On September 2, 2010 and November 3, 2010, the NEB approved the detailed route for the Project in Canada pursuant to section 36 of the NEB Act.

In addition, on September 7, 2010, the NEB approved the relevant pre-construction conditions in Certificate OC-56 to allow construction to commence on the Hardisty B Terminal and major river crossings to be constructed by horizontal directional drill (HDD). Construction commenced on the Hardisty B Terminal on September 13, 2010. On August 30, 2011, the NEB approved the pre-construction conditions for the pump stations and earth grading work has commenced. The HDD crossings of two major water courses -- the Red Deer and South Saskatchewan Rivers -- were completed during the first quarter of 2012.

Various ancillary authorizations from local, municipal, provincial and federal authorities for activities related and incidental to the construction and operation of the project facilities is also required. Filing for these authorizations is well advanced and the majority have already been received.

XI. ENVIRONMENTAL JUSTICE

To facilitate the Department's obligations under Executive Order 12898, environmental justice considerations, including information on minority and low-income

populations likely to be affected by construction of the proposed pipeline, were addressed in the FEIS (Section 3.10.1.1), as updated in the FSEIS (Section 3.10.2.4). The Department concluded that potential impacts to minority and low-income populations during construction within counties crossed by the proposed Project corridor would be minor and would not disproportionately affect these populations when considered at the county population level. Some potential limited, short-term construction impacts were posited to minority and low-income populations at the micro, census block level, however, mitigations for these impacts were identified in the FEIS. Further, the FEIS concluded it is not likely that operation of the proposed Project would disproportionately adversely impact minority and low income populations. This extensive analysis was conducted under guidance from the Environmental Protection Agency.

XII. COMPATIBILITY WITH NEC RECOMMENDATIONS

With respect to the recommendations contained in the August 8, 1994 National Economic Council White Paper, "Staff Recommendations on the Task Force on Border Infrastructure and Facilitation for Improved U.S. Border Operations," Keystone states as follows:

- No specific support infrastructure or access roads are necessary or required by state or regional plans with respect to the border crossing facilities.

- No Canadian development plans or priorities have been identified as specifically applicable to the border crossing facilities. Keystone XL will

comply with all permitting and other requirements applicable to the Canadian segment of the project, to the border.

- Keystone XL will inspect the border crossing facilities in accordance with U.S. Department of Transportation regulatory requirements set forth at 49 C.F.R. Parts 194 and 195, including aerial, foot and in-line mechanical inspections. The cost of these inspections will be covered by Keystone's normal operating budget. Keystone operational personnel will carry out all required inspections.

XIII. ENVIRONMENTAL REVIEW

A FEIS was released on August 26, 2011, which addressed the proposed Project as described in Keystone's 2008 application. A FSEIS was released on January 31, 2014, which addressed the proposed Project as described in Keystone's 2012 application. In the FEIS and the FSEIS, 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.

Keystone's application as submitted today follows the route from the Canadian border across Montana and South Dakota that was fully studied in the FSEIS, as well as the route approved by the Governor of Nebraska, which Keystone will submit to the Nebraska PSC. There have been no material changes to the impacts considered and described in the 2014 FSEIS.

Because so much of the environmental analysis relevant to this application was recently completed in the comprehensive review associated with the prior Keystone XL

application, there is no basis for the Department to conduct, *ab initio*, a new or supplemental NEPA process for this application. The existing environmental record can be relied upon because the currently proposed action meets all four accepted criteria for determining whether existing environmental documents adequately cover a proposed action under consideration:[7]

- The new proposed action is essentially similar to an alternative analyzed in the existing NEPA documents. It is within the same analysis area and the geographic and resource conditions are similar or identical to those analyzed in the existing NEPA documents.

- The range of alternatives analyzed in the existing NEPA documents is appropriate with respect to the proposed action, given current environmental concerns, interests, and resource values.

- The existing analyses are valid in light of any new information or circumstances. It is reasonable to conclude that new information and new circumstances would not substantially change the analysis of the proposed action.

- The direct, indirect, and cumulative effects that would result from implementation of the proposed action are the same as those assessed in the existing NEPA documents.

[7] See, BLM National Environmental Policy Handbook, p. 23, January, 2008.

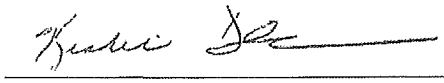
In this light, the Presidential Memorandum regarding Construction of the Keystone XL Pipeline signed and issued by the President on January 24, 2017, directs that:

> To the maximum extent permitted by law, the Final Supplemental Environmental Impact Statement issued by the Department of State in January 2014 regarding the Keystone XL Pipeline (Final Supplemental EIS) and the environmental analysis, consultation, and review described in that document (including appendices) shall be considered by the Secretary of State to satisfy the following with respect to the Keystone XL Pipeline as described in TransCanada's permit application to the Department of State of May 4, 2012:
>
> (A) all applicable requirements of the National Environmental Policy Act of 1969, 42 U.S.C. 4321 et seq.; and
>
> (B) any other provision of law that requires executive department consultation or review (including consultation required under section 7(a of the Endangered Species Act of 1973, 16 U.S.C. 1536 (a)).

XIV. CONCLUSION

For the reasons set forth above, Keystone submits that the construction, connection, operation, and maintenance of the proposed border crossing facilities, in conjunction with the Project as described herein and in the FEIS and FSEIS, are in the national interest of the United States. Accordingly, Keystone respectfully requests that the Department promptly issue a Presidential Permit authorizing the construction, connection, operation, and maintenance of the identified border crossing facilities for the importation of crude oil, to be located at the international border between the United States and Canada, at Phillips County, Montana, as more fully described in this application.

Respectfully submitted,



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Dated: January 26, 2017

TRANSCANADA KEYSTONE PIPELINE, L.P.
KEYSTONE PIPELINE PROJECT
PRESIDENTIAL PERMIT APPLICATION
EXHIBIT A

EXPERIENCE

TransCanada has designed, constructed and operated pipelines in virtually every type of topography of the world and has been North America's pre-eminent operator of pipelines since the 1950s when operations commenced on the high-capacity, transmission pipeline system connecting western Canadian natural gas supplies to eastern markets. Today, we operate one of the largest, most sophisticated, remotely-controlled pipeline networks in the world with a solid reputation for safety and reliability. Through almost 65 years of experience, TransCanada has unequalled success in construction and operation of large diameter pipe in extreme climates and virtually all types of terrain.

Our network consists of approximately 56,100, miles of natural gas pipeline network throughout North America and a 2,639 mile oil system that crosses the Canada/U.S border supplying Alberta crude oil to Patoka, Illinois, Cushing, Oklahoma, and U.S. Gulf Coast markets. TransCanada has developed a track record in operational excellence by developing and maintaining relationships with stakeholders and communities across the entire pipeline system.

Our Values, Commitment & Governance

At TransCanada, we see governance as the reflection of our corporate values. Those values — safety, integrity, collaboration, and responsibility — underpin all of our corporate policies. By following those policies in our day-to-day work, we govern our business, our relationships and ourselves in accordance with strong ethical values.

TransCanada's public safety and pipeline integrity programs are designed to ensure public safety and to meet or exceed industry best practices and regulatory requirements. The health and safety of the public, our employees and our contractors is paramount. From design and construction to operation and maintenance, safety is an integral part of everything we do.

TransCanada strives to minimize environmental impacts while ensuring we uphold our responsibility to strategically meet the energy demands of the continent. In short, our responsibility toward the environment is comprehensive and works to minimize the effects that our operations might have on the environment.

Pipeline Innovation

As a result of this widespread experience, and including our learnings from operations, our North American pipeline network has developed into a safe, reliable and cost-effective asset. We have attained this status by applying not only established industry knowledge but also innovative processes and technology. For example:

- We have implemented reliability-based methodologies into our design;
- We use risk models to validate design criteria and to set maintenance priorities;
- We utilize GIS technology to support our engineering and operations processes;
- We have installed industry-leading high strength steels into our mainlines; and
- We have made mechanized welding the standard, where possible, in large-diameter pipeline construction and we have developed and applied ultrasonic testing techniques which support the installation of our high-grade steels.

TransCanada is at the forefront of pipeline technology and is a leader in technical innovation. TransCanada collaborates with industry and regulators to ensure effective material and process implementation.

TransCanada's extensive and continually expanding network of pipelines allows the Company to develop technology improvements in engineering, design materials, welding, construction, project execution and operations.

TransCanada has a long history of developing and applying technology through the implementation of numerous improvements and ideas leading to an increase in productivity, maximized integrity, and quality assurance.

We have developed unique expertise in corrosion management. This allows us not only to operate safely and cost-effectively over the long term but to construct pipelines in new frontiers as well:

- We have proven experience in protecting our pipelines in areas where no commercial power is available. We operate a significant length of pipelines in such areas, particularly in northern Alberta. As a result, we have years of expertise in both the use of sacrificial anodes for transmission applications and in powering our cathodic protection systems with local, unattended sources such as thermo-electric generators;
- We are exploring new technologies, including fuel cells, to provide additional options for remote power generation; and
- We have decades of experience with the performance of pipeline coatings, particularly fusion-bonded epoxy (FBE), in cold climates and have done significant research in this area.

Operational Excellence

We are a leader with respect to operationally-efficient transmission companies in North America:

- Our oil and gas systems are designed for remote operation;
- We have specialized software which constantly analyses flow situations and monitors for abnormalities;
- We maintain our system with a risk-based, quantitative process that pinpoints our areas of greatest exposure and allows us to set our maintenance priorities;
- We are one of the world's largest operators of aero-derivative turbines outside the aircraft industry;
- We generate electricity from some of our compressor stations and have branched into renewable power generation with our wind and solar projects;
- We have a reputation for bringing new technology to our industry. From high-strength steels to new maintenance processes, we make new technology work.

TransCanada's operation and maintenance activities are governed by procedures that promote safety, environmental protection and efficiency. These procedures are developed and revised in conjunction with pipeline and facility maintenance plans, safety and environmental protection programs, and in response to legislated requirements and best practices in all applicable regulatory jurisdictions in which we operate.

These Procedures are maintained electronically and are accessible at all locations across the organization. Results and findings from maintenance tasks are captured and trigger reviews and updates to procedures to facilitate continuous improvement. A change-management program ensures that legislative and regulatory amendments are communicated, analyzed and incorporated into procedures when appropriate, and that staff receive timely notifications when procedures are revised.

TransCanada has developed Company specific operating procedures, which are mandated, detailed procedures, maintenance task instructions, site operating procedures and forms that are utilized by field personnel managing TransCanada assets. Utilization of these Company specific operating procedures is a key component of a project's Asset Management Strategy.

Operations Control Center

The TransCanada pipeline Operations Control Center (OCC) provides continuous, 24 hours/day, monitoring and control of the company's 56,100 mile gas pipeline network and 2,639 mile crude oil pipeline network. We have developed a state-of-the-art suite of control and information management tools which direct and monitor the safe and efficient flow of gas and oil across the continent. This package has evolved with the growth of our pipeline network over almost six decades, taking into consideration our learnings from system expansion, industry progression and customer needs.

The key services provided from the OCC include:

- Monitoring and control of the pipeline system and coordination of all activities on the system;
- Accurate receipt and delivery of all nominated volumes through optimum system operation; and
- A central role in emergency preparedness and response.

Overall system planning, outage coordination and general control center support is provided by our Operations Planning groups. More specifically, the following functions are carried out:

- Planning and coordination of outages from the very short term to one year into the future;
- Handling of unplanned outages;
- Simulation and hydraulic analyses of the pipeline network;
- Planning for capacity as well as the allocation of that capacity to customers; and
- Development and implementation of operating strategies.

The entire TransCanada transmission network is operated through a highly advanced Supervisory Control and Data Acquisition System (SCADA) system. The system has a superior record of availability and is designed to be redundant so that, in the event of a failure of the primary server, a redundant server would automatically perform all SCADA functions without effecting normal operations. Numerous end devices and protocols can be supported. We offer secure, remote views of our systems and data through a variety of telecommunications links including satellite, underground communication cable, and cellular radio towers.

A second fully functional control center, known as the TransCanada Backup Control Center, is used as a backup in case the OCC becomes unavailable for any reason. The TransCanada Backup Control Center is ready for service at all times. Each control center has redundant communication to monitor pipeline status.

ASSET MANAGEMENT

TransCanada has demonstrated a commitment to designing, building, operating and maintaining safe and efficient assets for over 65 years. TransCanada considers asset reliability and life-cycle management to be a strategic advantage for the Company. TransCanada's expertise is demonstrated through the comprehensive Asset Management System (AMS) it employs to develop detailed asset management strategies designed to maximize the safety, reliability, efficiency and optimized life-cycle cost of each project. These strategies, coupled with operating and maintenance philosophies, procedures and performance expectations, form the basis for the planning and preparation of integrity management programs, asset maintenance management strategies and primary technical support across the organization.

Asset Management System

The policies, processes and procedures that drive the operations, maintenance and integrity of an asset are captured within TransCanada's Asset Management System (AMS). Consistent with industry standards and world class level performance, the AMS embraces P-D-C-A (Plan, Do, Check, Act) application to ensure continuous improvement throughout our operations and maintenance activities. As part of overall asset reliability and life-cycle management, TransCanada has implemented specialized processes, systems and functions, allowing the prediction, design and operation of assets at a desired reliability and performance. The AMS defines these processes, techniques and tools to provide an integrated and scalable approach in decision-making based on risk and the inherent value of specific assets. This enables TransCanada's assets to continuously meet performance requirements and targeted, availability, efficiency, quality, regulatory, safety and environmental objectives. By leveraging current strategies and plans for operations and maintenance, existing and future assets are aligned with TransCanada's maintenance management philosophies and practices.

TransCanada has developed company specific operating practices consisting of detailed procedures, maintenance task instructions, site operating procedures and forms that are utilized by field personnel managing TransCanada assets. Utilization of these company operating procedures is a key component of a project's Asset Management Strategy. In addition to the inclusion of procedures, asset specific documents are prepared as part of the Asset Management Strategy which includes:

- Asset management plans
- Operating and maintenance plans
- Facility management plans
- Integrity management plans
- Site Specific Instructions.

Asset integration plans ensure the asset meets expected reliability and commercial performance, as well as the original design intent, and that the asset can safely accept energy or hydrocarbons. This is achieved by field personnel who are fully prepared in advance of the asset in-service date, as well as support departments throughout the organization.

Detailed plans and strategies are developed to ensure safe operation of the asset as well as to ensure compliance. TransCanada is prepared in advance of the in-service date, in order to fully integrate the asset into TransCanada's pipeline asset base.

On its 56,100 mile gas pipeline and 2,639 mile oil system, TransCanada has an exemplary record of safety, compliance and reliability. This is the direct result of our Integrity and Reliability Management Programs, processes and documentation that support its implementation.

Facility Integrity and Reliability Management

The Facility Integrity and Reliability Management threat management process identifies and performs risk assessment and analyses of facility equipment threats, which are used to prioritize and inform decision making on activities to mitigate and/or resolve those identified threats. Activities for managing threats are managed by the integrity planning process and addressed by risk management programs.

Activities for managing threats identified by the Facility Integrity and Reliability Management process for facility equipment are captured in annual maintenance plans or general plant maintenance capital projects and can be categorized by the following purposes:

- Monitoring – such as risk-based inspections of equipment – to detect the presence of threats;
- Prevention methods to protect against the likelihood of damage and failure;
- Assessment methods – such as general inspections of buildings and equipment, as well as pressure vessel equipment inspection – to determine the actual conditions of the facility;
- Remediation – such as equipment overhauls, equipment repairs, tank repairs, and replacement of obsolete equipment – to correct known equipment condition issues; and
- Mitigation methods – such as containment, fire suppression, fail safe automation controls, and relief controls – to reduce the consequences of a failure.

Integrity Management Program

The Integrity Management Program (IMP) for our pipeline network strives to achieve the following goals:

- Zero safety impact to the public and TransCanada employees;
- Zero pipe failures;
- Compliance with regulatory requirements, including special conditions, special permit and waiver requirements;
- Minimal impact on the environment;
- Maximum service availability; and
- Lowest lifecycle costs.

The IMP threat management program conducts risk analyses for pipeline segments identified as susceptible to a potential threat. Results of the risk analyses are used to determine and prioritize activities to manage and/or remediate identified threats.

Activities for managing threats identified by the IMP process for pipeline segments are captured

annually in the Pipeline Maintenance Plan (PMP) and can be categorized by the following purposes:

- Monitoring activities – including patrols, leak detection, CP surveys, and operating conditions – to identify, assess, and manage threats;
- Prevention methods – such as CP, physical barriers, Public Awareness Programs, line markers and signs – to protect against the likelihood of damage and failure;
- Assessment methods – such as in-line inspection (ILI), hydrostatic testing, and direct assessment – to determine the actual condition of the pipeline;
- Remediation – such as recoating or pipe repairs – to correct known pipeline condition issues; and
- Mitigation methods – such as pressure reduction, pipeline replacement, or relocation – to reduce the consequences of a failure.

Compliance Management

TransCanada's management systems ensure that design; construction, operation and maintenance activities at Company assets are conducted in accordance with applicable standards, codes and legislative requirements. In addition, these systems provide effective tools and processes for responding to and managing any incidents that occur with the outcome of protecting health, safety and the environment, preserving system integrity and satisfying all stakeholder requirements for information, including those of our regulators. As illustrated in the diagram below, the cornerstones of our compliance management process are the *Incident Management Policy,* the *Emergency Management System,* the *Issue Management Program* and the *Regulatory Management System.*

Each system fulfills a distinct role and purpose in managing compliance and these are described in the following sections. However, at the same time, they all share certain common characteristics as follows:

- The systems have been developed in accordance with a management system model that emphasizes the development of comprehensive documentation, the provision of effective technical support and training, regular performance measurement and compliance audits, and a focus on operational excellence and continuous improvement;
- The systems are scalable, meaning that they can be integrated easily into new business ventures and environments (e.g., power);
- The systems include reviews with TransCanada's legal department to ensure that system outcomes are legally consistent and appropriate; and
- The systems extensively utilize our Incident & Issue Tracking tool, which has won a "Best in Class" Award from the Canadian Energy Pipeline Association (CEPA).

Regulatory Management

TransCanada monitors legislation for any regulatory change that may have the potential to impact TransCanada's operation in Canada, the United States and Mexico. TransCanada focuses on legislative change and changes in industry best practices that affect engineering standards, specifications, operating procedures, task packages and programs. The process is designed to ensure appropriate reviews, approvals, procedures, training and documentation are completed.

SAFETY MANAGEMENT

Safety is part of TransCanada's core values. All contractors are pre-qualified and safety is a non-negotiable component of all TransCanada contracts. The Company is focused on safety in the way contractors are managed. Prior to commencing a specific construction project, a formal job safety analysis is conducted with contractor(s) in which both parties define all potential safety risks and agree on which party/ individual on site is primarily accountable for each risk. Additionally, TransCanada requires project-specific safety plans for each phase of the work to be in place. Formal safety training is required for contractor personnel.

Safety of Our Pipelines

TransCanada's pipelines are designed, built, and operated to ensure the safety of our natural gas and oil transportation system. We work to meet or exceed industry and government standards to ensure public safety.

Design: Our design requirements specify only top quality steel and welding techniques will be used throughout the system. Additional safety precautions are taken where pipelines cross roads and railway tracks or where waterways are located near communities. Precautions include using thicker-walled pipe and burying the pipeline deeper in areas of higher population.

Construction: During construction, all welds are checked by a radiography or ultrasonic inspection process that can detect very small defects. To protect against corrosion, pipelines are coated.

Testing the Pipeline: Once the pipeline is welded together, it is typically pressure tested to ensure there are no defects. During these tests, the pipeline is subjected to pressures that are much

higher than normal operating conditions to ensure safety under all conditions.

Operation: The entire pipeline system is monitored 24 hours a day by highly trained TransCanada staff from computerized control centers. From there, our staff can detect changes in pressure along our pipeline and ensure that all facilities are operating properly. Pipeline control valves are located approximately every 20 miles along the pipeline. Should pressure in the pipeline drop, the valves are designed to remotely shut off the flow of product. This limits the amount of gas or oil that is released.

During operations, a very low-voltage electric current called cathodic protection is applied to the pipe. This is another way we protect against corrosion.

Each region is fully staffed with qualified technicians who ensure the safe, efficient, and reliable operation of our facilities in the area. In addition, regional offices have access to health, safety, and environmental coordinators, compliance, engineering and pipeline integrity specialists.

Monitoring: We regularly inspect the entire pipeline route from low-flying aircraft. We look for signs of leaks, unauthorized activity, soil disturbances on the pipeline right-of-way, or any other conditions that could affect the safety of the pipeline. TransCanada employees also inspect sections of the pipeline on foot or all-terrain vehicles.

Maintenance: Electronic in-line inspection devices, known as "smart pigs", are periodically used on sections of the pipeline system to detect defects. Hydrostatic testing and investigative digs visually inspect the pipe condition.

Spills and Releases

TransCanada strives to minimize and prevent incidents, including spills, and has engineering and administrative controls in place to ensure safe operation of pipelines and equipment. We investigate even minor and "near-hit" spills. We respond to all spills to ensure proper cleanup and to minimize any potential impact to the environment.

Health, Safety, and Environment Management System (HSEMS)

Our safety culture is supported by systems and policies, such as our comprehensive Health, Safety and Environment Management System (HS&E MS). The HS&E MS has been developed and implemented to provide a systematic and organized approach to assure TransCanada's HS&E governance. In addition, the HS&E management system conforms to industry standards and is aligned with the management system requirements outlined in the applicable federal and state regulations.

The HS&E management system includes specific elements that:

- Establish well-defined controls for proactive management of health, safety, and environmental impacts and hazards;
- Create the protection programs required by federal and state regulations to protect the environment and the safety of employees and the public;

- Define roles and responsibilities to assure appropriate financial, human, and organizational resources are provided to plan, implement, and sustain the health, safety, and environmental management system and related protection programs;
- Confirm compliance with all applicable regulatory requirements and relevant industry standards;
- Facilitate systematic elimination of underlying or root causes of HS&E incidents and issues;
- Support development of the corporate safety management program to ensure ongoing processes and procedures are in place to prevent accidents and injuries to personnel; and
- Support development of environmental protection plans to ensure environmental hazards are identified, mitigated, and minimized throughout the lifecycle of pipeline systems.

The HS&E management system applies to all:

- Full-time and part-time employees;
- Contractors and independent consultants to TransCanada; and
- TransCanada wholly-owned subsidiaries and operated entities in Canada, the US, and Mexico.

Corporate Safety Culture

Excellence in HS&E practices is considered to be vital and essential to all aspects of TransCanada's business. TransCanada is committed to continuously promoting and improving safety on the job, from planning through to execution.

On the job, employees keep safety front-of-mind, maintain required training, and make use of the guides and tools available to ensure that work is planned and executed with the goal of zero incidents. TransCanada's internal Safety 24/7 Program is one of the ways in which TransCanada urges all employees to develop and maintain habits that will keep them and their families safe and healthy every day.

TransCanada believes that strong and consistent management of all safety aspects associated with contracted project services will enhance the health and safety protection provided to employees, contractors, and communities. As such, TransCanada considers it essential to partner with contractors that implement programs and processes that are equal to or exceed TransCanada's health and safety standards.

INCIDENT MANAGEMENT POLICY

The purpose of the Incident Management Policy is to ensure that TransCanada satisfies its health, safety and environmental commitment to meet or exceed all applicable laws and regulations by applying a systematic, timely process for anticipating, preventing and managing unplanned or unforeseen events which result or may result in undesirable consequences for the Company, its personnel and stakeholders.

The Policy encompasses the following three (3) processes designed to address the unique conditions and responses required with an Incident in accordance with its risk profile and ultimate origin or source (non-operational, operational).

- Incident Management Program: TransCanada's Incident Management Program (IMP) is

one of the components of the Health, Safety and Environment Management System. Its purpose is to ensure Incident response, notification, investigation, documentation, follow-up and sharing of Learnings is completed in a uniform, thorough, and timely manner, to promote continuous improvement and to help prevent recurrence of similar Incidents.

- Emergency Management: TransCanada's Emergency Management System applies to all aspects of preparedness and response, but in particular means doing whatever is practicable to ensure the safety and security of the public, regardless of the cause of the company's emergency or assignment of fault. The purpose of the system is to protect the health, safety or welfare of people, or to limit damage to property, company operations and the environment. A critical component of Emergency Management is Business Continuity. TransCanada's Business Continuity Program is structured to ensure that each business area clearly understands the impact to their business processes from a resource disruption perspective and to assist in the identification of appropriate mitigation strategies. This program has been designed to help effectively manage incidents in a way that ensures an enterprise approach to problem solving, and to be flexible and scalable, ensuring continuous alignment with TransCanada business direction and strategies.
- Crisis Management: Crisis Management is set up to effectively deal with the challenges of: a possible extortion attempt, kidnapping, hostage taking, crisis involving a bomb or bomb threat, fatal aircraft accident, pipeline catastrophe, natural disasters, civil disturbances, sabotage events, or any other incident of a similar magnitude. Such incidents generally differ from those of a regional or localized basis, because of their wide-ranging impact and influence. Resolutions normally require more than a routine coordinated operations approach. For these reasons the crisis organized team response is mounted as the situation dictates, and to assume responsibility in looking after the best interests of TransCanada and its employees.

Emergency Management System

TransCanada's Emergency Management System is an integrated system of procedures and plans that ensure an efficient and effective response to emergency situations at all Company natural gas transmission, natural gas storage, oil transmission and power generation facilities. The Emergency Management System details the procedures and accountabilities associated with the activation, notification and response phases of an emergency and in addition, facilitate preparedness.

As part of the program, an Emergency Response Plan ("ERP") will be developed prior to commencing new pipeline operations and submitted to the pipeline safety regulators. TransCanada will consult with local officials to ensure coordination with local and state offices of emergency services as the Plan is further developed. TransCanada will also conduct training for internal and external responders and outreach with Emergency Responders to ensure alignment in the need for response to a pipeline emergency.

The overall strategy behind the ERP is to manage risks and to ensure that TransCanada is able and prepared to address any potential consequences in the event of an emergency including a release. TransCanada will have internal personnel, contractors and equipment situated in strategic locations along the pipeline route to facilitate an immediate and safe response to an emergency. The ERP would describe how spills would be responded to in the event of a release from the Project resulting from any cause. The plan would address the maximum spill scenario and procedures that would be in place to deal with the maximum spill.

Components of the program include: an Emergency Response Plan (ERP), Facility Response Plans (FRPs) (one for each facility), identification of response resources (personnel and equipment) and ensuring availability, personnel training, and engaging and informing community first responders and other stakeholders. The ERP would outline the following:

- Measures to protect the health and safety of responders and the public
- Internal and external notification procedures including to emergency services, government/regulatory agencies and contractors
- Initial and sustained response actions
- Response equipment and personnel resources
- Environmental Sensitivities and High Consequence Areas
- Tactical control points
- Training requirements
- Maintenance requirements
- Other regulatory required elements

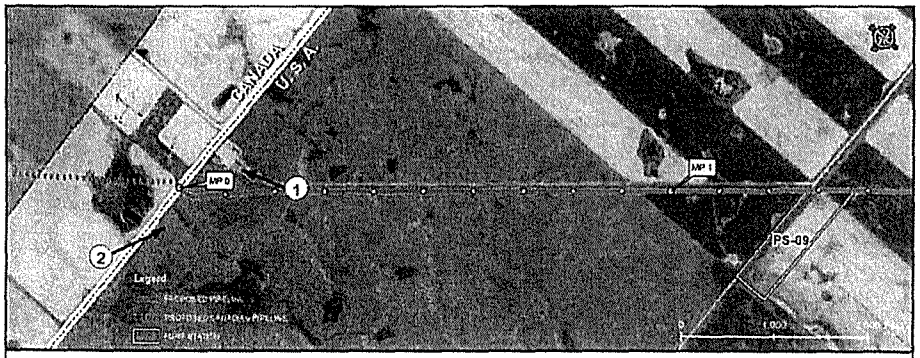
Environmental Management

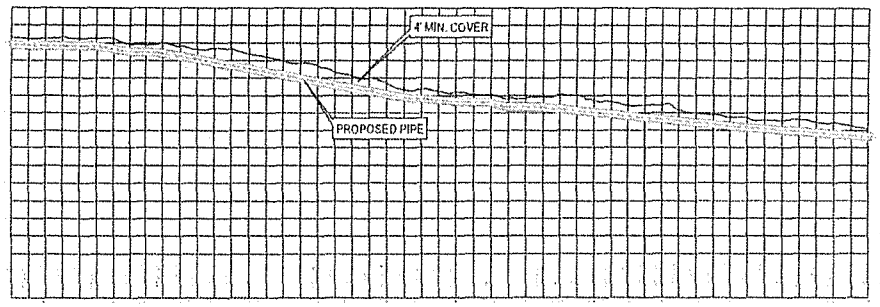
TransCanada is an industry leader in environmental management with extensive environmental permitting and planning strength.

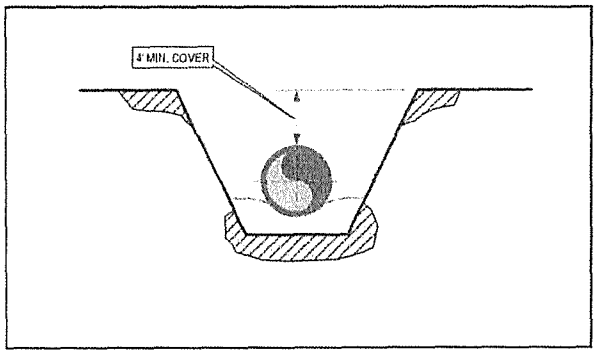
- We have a well-established health, safety and environmental management system.
- TransCanada has consistently achieved outstanding performance in environmental planning, execution and compliance on a number of large pipeline projects within North America.

We are committed to protecting the environment. As one of North America's leading energy infrastructure companies, we respect the diversity of the landscapes in which we operate and always consider the environmental and cultural aspects of our business activities.

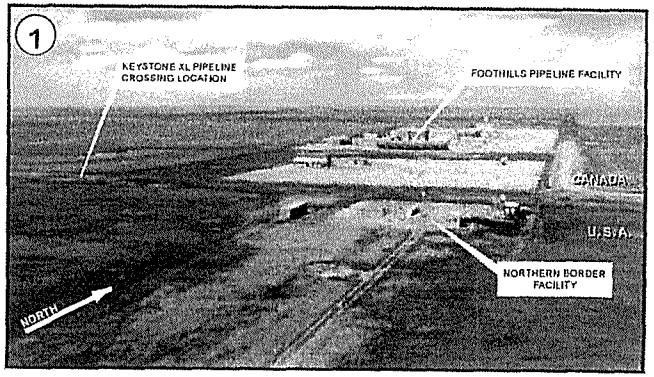
TRANSCANADA KEYSTONE PIPELINE, LP
KEYSTONE XL PIPELINE PROJECT
PRESIDENTIAL PERMIT APPLICATION
EXHIBIT B





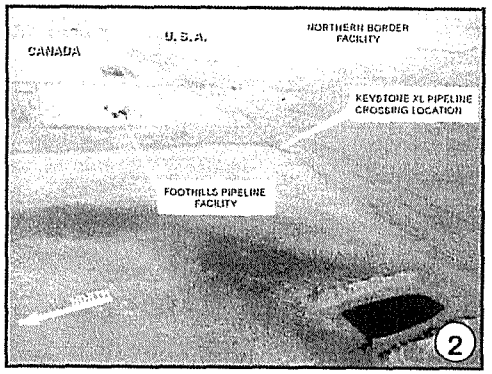


LOOKING NORTH TO USA/CANADA BORDER



NOTE: COMPRESSOR STATION ON THE CANADIAN SIDE OF THE BORDER IS OWNED BY FOOTHILLS PIPE LINES LTD., LOCATED IN SASKATCHEWAN

LOOKING EAST ALONG USA/CANADA BORDER



exp.

TransCanada

NO.	REVISION	DATE
	PRELIMINARY	
1	ISSUED FOR REVIEW (UPDATED IMAGERY & ALIGNMENT)	2012-03-29
0	ISSUED FOR PRESIDENTIAL PERMIT APPLICATION	2011-08-22

TRANSCANADA KEYSTONE PIPELINE, L.P.
APPLICATION FOR PRESIDENTIAL PERMIT
KEYSTONE XL PROJECT

EXHIBIT B

DRAWN BY	CHECKED BY	APPROVED BY	PROJECT	DRAWING NUMBER	SHEET	REV.
GS	JP	RG	50388XL	XL-30-P-7082-A	0001	1

TRANSCANADA KEYSTONE PIPELINE, L.P.
KEYSTONE PIPELINE PROJECT
PRESIDENTIAL PERMIT APPLICATION
EXHIBIT C

Pipeline Specification

The following summarizes pipeline specifications for the Keystone XL Pipeline Project.

1.0 DESIGN FORMULA

The design parameters for steel pipe shall be determined in accordance with the following equation: (See 49 CFR 195.106-Internal Design Pressure):

$$P = 2St/D \times F \times E$$

where:

P = Internal Design Pressure, psig
S = Specified minimum yield strength, psi
D = Nominal outside diameter of the pipe, inches
t = Specified wall thickness of the pipe, inches
F = Design Factor, 0.72
E = Seam joint factor

2.0 DESIGN FACTOR DETERMINATION

The design factor (F) will be determined as a result of conditions or a combination of conditions such as crossings, fabrications, station piping, and special areas.

2.1 Mainline and Facilities

The pipeline will be designed consistent with the 59 Special Conditions included in the Department of State's January 31, 2014 Final Supplemental Environmental Impact Statement.

The design factor of 0.72 will be used for the mainline in all areas where normal installation methods and cross country conditions prevail.

2.2 Crossings

Though a lower design factor is not specified by 49 CFR Part 195 for selected crossings and fabricated assemblies, a conservative design practice is applied. Pipe installed at all highway crossings, bored road and cased rail road crossings shall be design to equate to at least 0.60 design factor. Directionally drilled crossings, and uncased railroad crossings shall be designed using a design factor of at least 0.50.

3.0. LINE PIPE REQUIREMENTS

Line pipe for the Keystone XL Project shall be double submerged arc welded in accordance with API 5L Specification for Line Pipe

New steel pipe for the mainline shall be mill inspected by an authorized TransCanada inspector and mill tested to API specification requirements, and Company specifications.

If shipped by rail, the shipment shall be made in accordance with API Recommended Practice 5L1 specification, if shipped by barge or marine transport, the shipment must be in accordance with API Recommended Practice 5LW.

4.0 MINIMUM WALL THICKNESS AND YIELD STRENGHT

Mainline pipe nominal wall thickness will be determined by the design formula, included in Section 1.0:

The pipeline will operate at a Maximum Operating Pressure of 1308 psig with an operating specified minimum yield strength up to 72 percent.

36" O.D. x 0.465" w.t., API 5LPSL2 X-70M
36" O.D. x 0.515" w.t., API 5LPSL2 X-70M
36" O.D. x 0.618" w.t., API 5LPSL2 X-70M
36" O.D. x 0.748" w.t., API 5LPSL2 X-70M

Design Pressure of 1600 psig at locations downstream of select pump stations where the elevation is lower than the station:

36" O.D. x 0.572" w.t., API 5LPSL2 X-70M

5.0 PIPE WALL THICKNESS TRANSITIONS

End preparation will be done in accordance with API 1104.

6.0 MINIMUM PIPE LENGTH

Minimum pipe length to be installed on pipeline construction will be five (5) feet. This does not apply to fabricated assemblies or transition pieces.

7.0 PIPE BENDING

The pipeline will utilize both field bending and 3D forged fittings in the construction of the pipeline. The pipeline will allow for 100% passage of in-inspection tools.

8.0 COATING CONSIDERATIONS

A. Below Ground Piping

The primary coating for the exterior surface of below ground line pipe shall be fusion bonded epoxy (FBE) Welded field joints shall be protected with two-part liquid epoxy. Internal coating is not required for this project. Line pipe installed in a bored or directional drill crossing shall be coated with FBE and an over coat of abrasion resistant coating.

Line pipe installed in marshes, streams and wetlands subject to flooding for extended periods of time installed by the open-cut method will be externally coated over FBE coating with reinforced concrete, concrete weights or geotextile bag weights installed to provide the pipe with a minimum specific gravity of 1.10 in fresh water.

B. Above Ground Piping

All above grade, uncoated piping and appurtenances shall be prepared, primed and painted in accordance with Company painting specifications. Colors shall be specified by Keystone.